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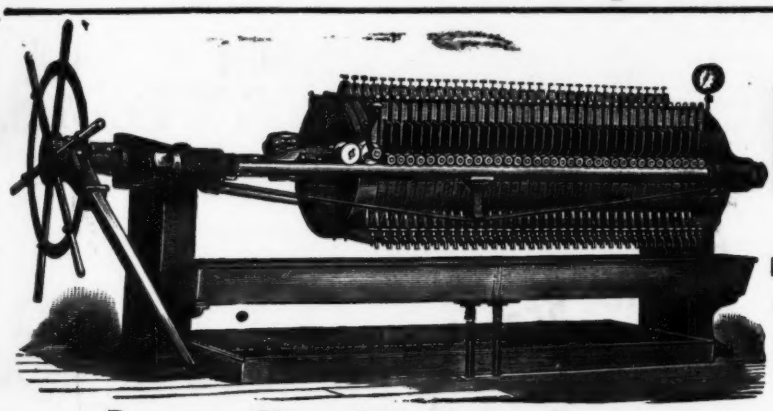

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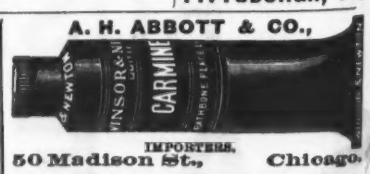

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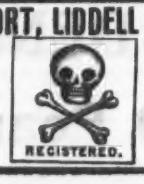

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WEDNESDAY, DEC. 25, 1889.

LEADING TOPICS THIS WEEK.

The imported glass workers.
Low test petroleum.
Our foreign business during the year.
Statistics of imports and exports.
The advance in guarana.
The nitrate of soda market.
Higher prices for tonka beans.
Exporting cottonseed.
Defining lead ore.
The question of infringements.
Auction sale of drugs and sundries.
Uniform prices for colors in oil.
The Internal Revenue and the alcohol tax.
Meeting of the Chicago Paint and Oil Club.
Meeting of the Detroit Paint and Oil Club.

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WEEKLY REVIEW.

The money market has ruled very firm during the past week. Money on call has ranged from 9% to 2%, and closes at 6. Time loans rule at 6@8% for 30 days to 6 months.

The supply of commercial paper is fair, and a slight improvement in the demand is noted. We quote 60 to 90 days indorsed bills receivable at 5¼@6%, first class four months commission house names at 6@6¼ and good single names (jobbers) having four to six months to run at 6¼@7¼. Following are the rates of exchange on New York: Savannah, buying ⅛ discount, selling par. Charleston, buying ⅛ discount, selling par. New Orleans commercial, $1 25 per $1,000 discount@ par. St. Louis, 75c per $1,000 discount; Chicago, 50c per $1,000 discount. Sterling exchange is firm.

Sterling 60days, nominal	4 81½@	
sight, nominal	4 85½@	
60 days, actual	4 80¾@4 81	
sight, actual	4 84¼@4 84½	
Cable transfers	4 84¾@4 85¼	
Commercial, 60 days	4 79¾@4 80	
Paris cable transfers	5 19⅛@5 18¾	
60 days	5 23⅛@5 22½	
sight	5 20⅛@5 20	
com., 60 days	5 25 @5 24⅛	
com., sight	5 22½@5 21⅞	
Antwerp, 60 days	5 26¼@5 25⅝	
Brussels, bankers' sight	5 21¼@5 20⅝	
Swiss, 60 days	5 24⅜@5 23¾	
sight	5 20⅛@5 20	
Reich marks (4) 60 days	94⅝@94¼	
(4) sight	95⅛@95¼	
(4) nom., 60 days	94 @94¼	
(4) com., sight	94¾@94⅞	
Guilders, 60 days	39 15-16@40	
sight	40⅛@40 3-16	
com., 60 days	39 11-16@39¾	
com., sight	39⅞@39 15-16	
Copenhagen, Stockholm and Christiana, Krona, 60 days	26⅝@26¾	
sight	26⅞@27	

HIGHER PRICES FOR TONKA BEANS.

Large sales of tonka beans have been of rare occurrence during the last year or two, though, as a rule, when the great tobacco manufacturing companies buy they take a considerable quantity. The sale of Angostura tonkas which was reported in our review of the market last week, was the first important transaction in these goods for several months, and was, moreover, one of the largest if not the largest sale of the kind that has ever been made in this market. The stock so released did not all go directly into consumption, but it embraced everything previously held by importers and the effect of the sale on market prices has consequently been marked.

The advance referred to in our last issue is said to be but the beginning of an upward movement of values that needed only the incentive of the recent transaction to be set in motion. For two or three successive years the crop of Angostura tonka beans has been small, but this year a large yield was expected as the trees reach the maximum of productiveness every fourth year. Almost up to the time for the ripening of the beans, the prospects for a good crop were flattering and it was expected that the yield would amount to at least 160,000 pounds. Later, however, prolonged rainy weather did the crop great damage, and when the beans were finally gathered, the outturn did not exceed 60,000 pounds.

Ordinarily the shortage would not have been so severely felt as it has been, because the trade would have fallen back on Para beans, either for direct consumption or, in some cases, for mixing with the more costly Angosturas. In the present instance, however, the Para variety was not to be had in sufficient quantity to supply even a small part of the demand, since the 1889 crop of Paras was almost a total failure, the yield reaching only about twenty five hundred pounds as against an average production of about twenty-five thousand pounds. Of the portion of that crop received by this market, it is said that less than seven hundred pounds remain in the hands of dealers, and being controlled by one party, chiefly, will no doubt be advanced in sympathy with Angosturas. It will be seen, therefore, that the position is an unusually strong one and the outlook is for much higher prices, as there can be no addition to the stock of either Angostura or Para tonkas, until the crop of 1890 is received.

THE ADVANCE IN GUARANA.

Although guarana is not a very important article in the drug market, the large advance in the price of this substance during the past few weeks has brought it into some prominence as a speculative commodity. A little over a month ago the market was dull and the quotation of one dollar and twelve and a half cents per pound was merely a nominal price that almost any of the holders of guarana would have been very glad to get. No one took sufficient interest in the drug to act upon information received about that time from Brazil, but later, when the political disturbances in that country suggested the probability of a speculative movement in the products exported by it, guarana received more attention than the earlier reports concerning its position in the primary market excited.

The political situation in Brazil has in reality had little to do with the advance in guarana, the beginning of the upward movement antedating the overthrow of the imperial government, although its influence was not felt here until some time after the primary market began to advance. No reliable information is at hand concerning the last crop of the drug, but from reports in circulation it would appear that the supply at the point of production is smaller than usual. Whether this is the fact or not, it is announced on good authority that the home demand for guarana has increased to such an extent that the Brazilian shippers have been able to get much better prices in their own markets than would be paid here, and that consequently no more stock will be sent to New York this season.

Acting upon this information, several dealers set about quietly buying up the spot supply, and after securing a considerable proportion of what was available their efforts to concentrate the stock began to affect the market; gradually at first, but, finally, with a bound, prices advanced and at the present time two dollars per pound is the lowest figure named, and that by the one holder who controls the bulk of the supply. Others, and these are now few, quote two dollars and a half per pound. From present indications it is doubtful if any stock will be sold below the latter figure by the time this reaches our readers.

DEFINING LEAD ORE.

The lead mine owners of Colorado and the West generally were not at all satisfied with the disposition of the Mexican lead ore question made by the Secretary of the Treasury, and thus early in the session their representatives in Congress are moving to have the law on the subject so changed that it will be impossible for anyone to import the Mexican ore into this country without paying the duty. To this end a resolution was submitted last week to the House by one of the lead country representatives, and referred to the Ways and Means Committee. If the resolution is acted upon it will no doubt meet the wants of the American producers, but will be sure to bring out a strong protest from those whose interests are affected by the shutting out of this ore.

After calling attention to the provision of the tariff for a duty of one and a half cents per pound on imported lead ores, the preamble to the resolution refers to the recent ruling of the Treasury Department permitting free entry of those ores which contain greater value in gold and silver than lead, and says that under this ruling many thousand tons of lead contained in such ores are annually imported into the United States duty free, whereby the Government is largely defrauded and the lead producers of the country are deprived of the protection which the law was intended to give them, and are subjected to the injurious and even destructive competition of the peon labor of Mexico, in consequence of which the lead mining industry of the United States is greatly depressed and in danger of utter ruin. Therefore, Congress is asked to rule that any ore which contains lead in sufficient quantities to make it valuable for commercial or industrial purposes is a lead ore within the meaning of paragraph 188 of the tariff, and request the Secretary of the Treasury to modify his ruling accordingly.

LOW TEST PETROLEUM.

The oil trade of Philadelphia is exercised over one of the periodical raids made on the venders of low test illuminating oil. It appears that quite a number of dealers who have been selling the low test oils have been in the habit of shopping around to get their supplies a fraction under the regular price, and apparently cared little from what source the supply comes so long as the barrels were branded to indicate the proper test. No attempt appears to have been made by the purchasers to ascertain if the brands were applied by the State Inspector or his deputies, notwithstanding that the barrels had no other marks indicating their source, which in itself should have caused suspicion. The price of refined oil is so low that the fact of any parcel being offered under the regular price should lead the buyer to suspect the quality, but it appears that the retail dealers have persistently sought for bargains, caring little for brands or makes so long as the general appearance of the oil did not condemn it. Philadelphia appears to be a convenient dumping ground for some of the smaller western refiners of such part of their product as does not come up to the standard of quality. Such lots are usually sold without any mark to show where or at what refinery it is produced, and this of itself should condemn the oil unless the purchaser can verify the test marks. Refiners rarely omit to place the names of their works or their brands on containers, and as this in itself is a guarantee of quality it would be well for buyers to reject any oil not so marked, unless they have the time and disposition to test every package. It is, however, charged that the buyers of this low test oil are not in all cases ignorant of its quality and that the low grade oils are, in some cases at least, sent to that city to supply a demand for just such oils. As the Pennsylvania petroleum law is both plain and severe it is hoped the present investigation and proposed prosecutions will have a salutary effect in checking the sale of oils that have no proper guarantee of their quality.

THE IMPORTED GLASSWORKERS' CASES.

Although suit was entered several weeks ago against the officers of the American Glassworkers' Association, who were alleged to have been instrumental in bringing the English glassworkers to this country, as well as against the firm of manufacturers who gave these men employment, the cases have not yet been reached on the calendar of the United States Circuit Court in Pittsburg, in which the suits are to be tried, and in the ordinary slow course of events some months may elapse before the cases are finally adjudicated. In the meantime, strenuous efforts are being made by the defendants to prevail upon the Treasury Department, which appears as plaintiff, to withdraw the suits, on the ground that no intentional or technical violation of the alien contract labor law was committed. It does not appear that the manufacturers involved in the case are much disturbed by the litigation, or that they have taken any steps to stop the proceedings, but from information just received from Pittsburg it is apparent that the official representatives of the American workers are anxious to have the matter settled without a public trial, for reasons which they considered of sufficient importance to induce them to request a special conference with the Secretary of the Treasury.

A dispatch received here Saturday from Pittsburg asserts that the president of the workers' association, in his interview with Secretary Windom, made a general denial of the charges preferred against him, stating that the men upon whose immigration to this country the charges are based, came under the laws of the Glassworkers' International Federation. A copy of these laws were shown to Mr. Windom, and it was explained to him that while they were secrets of the federation they had been made and were executed in an earnest desire to conform to the laws of the United States. It was intimated that the defendants would rather stand convicted than have these secrets of their organization brought out in court.

It is stated that the representations made to Secretary Windom created such an impression upon him as to encourage the belief that the legal proceedings will be dropped. It is doubtful, however, if the zealous advocates

of the alien contract labor law, whose agitation of the question caused these suits to be brought, will be satisfied to allow the case to be dropped without a most earnest effort to secure a conviction of the alleged culprits.

STATISTICS OF IMPORTS AND EXPORTS.

The Treasury Department has pronounced itself opposed to a customs commission such as was proposed in the Senate tariff bill of the last Congress and again proposed by the bill introduced in the Senate on the 10th inst. by Mr. Plumb. The Treasury officials claim that the Bureau of Statistics was established for the purpose of furnishing all the information to Congress and the executive departments which it is suggested that the customs commission should be organized to procure, and that the Treasury Department has no use for a customs commission. Of course not. A customs commission, being a separate organization, would take so much from the Treasury Department—reduce its patronage and pap. That is the reason for the objection to the proposed scheme. The collection of statistics of the amount and value of the exports and imports, which is all that the Bureau of Statistics now furnishes, is but a small part of what is required. Were this all, the proposed commission might be regarded as superfluous, though the statistics now furnished by the Bureau are of very little value owing to the peculiar grouping of articles. The statistics of imports as furnished by the Bureau of Statistics give the quantities and values of but a small proportion of even the more important articles comprised in the chemical schedule of the present tariff law. In the list of articles free of duty under the head of dyewoods the imports of logwood alone are given, the others being lumped together. Under the head of gums we have arabic, camphor, cutch and shellac, the remainder, and by far the larger in quantity and value, being given as a whole without attempt at classification. The remainder of the list of chemicals, drugs and dyes designated amount to thirteen articles and a far greater number come under the all-embracing term "all other." The import statistics on free oils are practically valueless, as they are grouped under the head "fixed or expressed" and "volatile or essential." The amount and value of each of the different oils should be given. In the list of dutiable chemicals, drugs and dyes the articles designated make up barely one-half of the total imports under that general head. Paints and colors are given in a lump sum which gives no clue of what proportion any particular pigment bears to the whole. Under the head of seeds, not medicinal, we have linseed and "all other," while spices are given in one pungent lump. Nor are the statistics of exports much more satisfactory, the item "all other" being by far the most prolific in rendering revenue to the government. The list, too, has not been amended or changed in years, and articles which were formerly of importance, but which have been displaced or superceded by others, are retained, while new ones that have been added and whose importance has increased to large proportions are given no place in the list, they merely helping to swell the large proportion embraced in the "all other" designation. If the Treasury Department has no use for a customs commission, the people and the people's representatives in Congress have need of one. To make such a commission needless, the Bureau of Statistics must give the statistics that are necessary. The fault is not a new one. It is of long standing and one to which we have several times called attention during the past ten years.

THE NITRATE OF SODA MARKET.

The parties in control of the nitrate of soda industry are believed to be either guilty of mismanagement or manipulating the market in order to enlarge the consumptive movement No other causes can be assigned for the comparatively low prices which have prevailed for some time in face of the fact that the industry is in much better condition and supposed to be in the hands of substantial business men who are in a position to regulate matters to suit themselves. A circular issued in the local trade last week comments rather pointedly on the lack of enterprise manifested on the other side and states that if an actual curtailment of production had taken place three months ago instead of contemplating by resolution a decrease in the output, the market would now be in a better condition. It is considered poor policy to attempt an advance in values without restricting supplies, and the mistake committed by those in power is now apparent in the margin of profit realized. Dissatisfaction is also expressed over the seeming neglect of the American field of operations which offers a splendid opportunity for increasing the business to an important extent, as is evidenced by the growing popularity of nitrate of soda in agricultural communities as seen by the increased demand.

It is strange that more attention has not been paid to the development of the interests in the United States. It was expected that some means would be adopted to advance the business here when the industry was placed on a better footing abroad, but it has been allowed to continue the old routine and there are no prospects of an early change in the program. The belief cannot be entertained that the American territory is not worthy of additional attention, as the increased annual movement of from 400,000 to 530,000 tons within four years ought to be sufficient encouragement for the exercise of greater effort in our markets. This increase was made possible by the lower cost of nitrate and that fact ought to be kept in mind when undertaking any new departure. A still larger volume of business is wanted in preference to advanced rates to satisfy shareholders in the speculative companies of England; still there is room for better prices without interfering with the movement, but wise action is necessary on all the points suggested to prevent utter demoralization.

EXPORTING COTTONSEED.

Some one interested in a machine for cleaning the fiber from cottonseed is endeavoring to float an enterprise at the National Capital where investments are supposed to be easily obtained during the session of Congress. Attention is directed to the scheme by the statement that American cottonseed has an excellent export outlet which could not be developed before an account of the cotton fiber adhering to the seed and causing it to heat while being transported abroad. The difficulty being removed by the cleaning process, it is claimed that a net profit of ten dollars per ton can be realized on all seed laid down in London or Liverpool, and that if only one-tenth of the alleged surplus supply is sent abroad, a total profit of $2,000,000 is figured out for one year's work. English crushers are said to be anxious to get American seed as the supply from Egypt is not sufficient to meet their demands. But a more surprising statement is to the effect that the English method for manufacturing oil from cottonseed is far superior to the American system.

It should be understood that the exportation of cottonseed has been fully considered in previous years, and that efforts were made to have the Continent take a good portion of the American crop each year, but competition with Egyptian seed was found to be an obstacle which could not be overcome with profit. On one occasion an extra large quantity of domestic seed was shipped to England with the intention of making it an opening wedge for establishing trade, but the article was no sooner put upon the market when believers in the Egyptian product sacrificed their holdings and caused general demoralization which of course resulted disastrously to the American interests. This course is pursued whenever necessary to discourage fresh competition from this side of the Atlantic. As foreign crushers are benefitted by the trade fights, they favor the import of seed and are now purchasers to a limited extent on account of quality and to continue the friction. The mechanical process of cleaning referred to has been in operation for some years, but the difficulty cannot be overcome of preventing the hulls from breaking, thus allowing the air to come into contact with the meat of the kernel and causing a deterioration of quality for crushing purposes. Considerable risk attends the exportation of seed either with or without the cotton fiber, and for that reason only small amounts are sent abroad, the total shipments during the past nine months having reached 9,818,497 pounds, against 4,871,895 same time last year.

It is hardly necessary to furnish evidence to combat the argument advanced in favor of the English methods of manufacturing oil. A comparison of quality certainly exhibits superiority for American brands, and if improved methods have been adopted on the other side they cannot be in practical use as the grades of manufactured products don't show it. England has taken about 800,000 gallons of American oil since September 1, and that fact should have greater weight than the unsupported statement referred to. The experience of merchants in that line of trade will prove valuable to those who contemplate a venture in the seed-cleaning and exporting business. and consultation may prevent a loss to prospective investors.

THE QUESTION OF INFRINGEMENTS.

There seems to be considerable interest manifested in the forthcoming report of the joint committee on infringements of proprietary rights, and as an answer to the inquiries received concerning the result of the investigation of three special cases, we can only say that the committee has arrived at a decision which is now in the hands of counsel for an opinion before it is given to the public. Whatever the finding may be, the National Wholesale Druggists Association is pledged to support it, according to the following resolution which was adopted at the Boston meeting:

Resolved, That should this joint committee be of the opinion that such allegations of infringements or simulations be sustained, then this Association pledges its members to cease to handle those goods that are said to be infringements or simulations.

All members should consider it their duty to recognize the validity of trade marks and to discourage the sale of goods branded as infringemeuts. One safe course to pursue is to accept the decisions of the joint committee, as they are arrived at after patient inquiry.

OUR FOREIGN BUSINESS DURING THE YEAR.

A retrospective view of the import and export business affords more encouragement than for some years back, as the movement of goods has been remarkably large although prices were on a lower basis than previously. There is some consolation in the fact that the value of exports of merchandise during the last fiscal year exceeded the amount of any year since 1888, and that the value of imports during the same period was the largest in the history of our commerce, being even greater than in 1882 which has gone down into history as one of the most prosperous years on record. This satisfactory showing of the departing year is not only expected to be continued but it is believed to foreshadow an era of better prices and confidence. A firmer feeling is certainly taking hold and the prospects for an increased volume of business are much brighter than this time last year.

As accurate statistics are an index to the true character of the business transacted, we make some comparisons below from an official document which arrived last week from the Treasury Department. The following table shows the principal changes which occurred in the domestic export trade represented by the REPORTER, during the last fiscal year with respect to the increase or decrease of articles exported.

Articles.	1888. Dollars.	1889. Dollars.	Inc. Dollars.	Dec. Dolls
Oil cake and oil cake meal	6,423,980	6,927,913	503,933	.....
Lils:				
Mineral cr'de.	5,782,008	5,083,132	.....	698,876
Mineral, refined or manufactured.	41,280,401	44,830,545	3,570,144	....
Vegetable	2,859,778	1,585,789	.....	773,988
Oleomarga'ne	3,442,757	2,915,097	.....	527,660

The export trade in chemicals, drugs, dyes and medicines is summarized in the following statement:

1884	$4,694,386
1885	4,806,198
1886	5,819,468
1887	5,340,480
1888	5,633,972
Average 5 preceding years	5,187,699
1889	5 542,753
Increase for 1889	385,054

The foreign business in lard netted exporters $27,829,173 during the present fiscal year, which is the largest amount realized since 1882. The heaviest exports of that article were made in 1881 when they amounted to over thirty-five million dollars in value.

An examination of the following list of imports will give an accurate idea of the comparative volume of business in that line:—

Articles.	1888. Dollars.	1889. Dollars.	Increase. Dollars.	Decrease Dol's.
Free of duty.				
Argal, or argol, or cr'de tartar, and argol dust	2,320,512	2,490,871	170,359	....
Dyewoods in sticks	1,671,513	1,665,452	...	6,061
Gums	5,491,560	5,276,467	....	215,093
Indigo	2,281,555	2,684,105	452,550	....
Licorice root	831,117	874,430	43,313	....
Quinia, sulphate and salts of	651,535	940,325	288,790	....
All other	12,479,885	12,693,785	213,900	....
Total	25,677,677	26,625,435	947,758	...
Fertilizers	1,068,312	1,613,662	545,320	....
Oils, n. e. s.	2,031,308	1,749,888	....	281,420
Plumbago	371,441	248,487	...	122,954
Spices, unground	3,341,563	2,984,193	....	357,370
Dutiable—				
Chemicals, drugs, dyes, and medicines, not elsewhere specified	13,888,272	13,029,236	....	809,036

The following summary shows the increase or decrease in the import values of each article named, as compared with the average values of imports during the preceding five years:

Articles.	Average of the preceding five years. Dollars.	1889. Dollars.	Increase. Dollars.	Dec'se Dol's
Free of duty.				
Chemicals, drugs, and dyes not elsewhere specified	25,238,006	26,635,435	1,397,429	....
Spices, unground	3,086,412	2,984,198	...	82,214
Dutiable—				
Chemicals, drugs & dyes	12,964,768	13,029,236	64,468	...

The following table shows the values of some leading articles entered

for consumption, including both entries for immediate consumption and withdrawals from warehouse. The term "entry for consumption" does not imply that the goods are actually consumed, but simply that they have been delivered into the custody of the importer, and that the duties have been paid; portions of these goods may be subsequently exported:—

Articles.	1888. Dollars.	1889. Dollars.
Chemicals, drugs, dyes and medicines	25,679,931.59	26,615,446.11
Spices, unground	2,344,069.06	2,968,471.39
Oils, fixed or expressed, and volatile or essential	2,029,783.87	1,741,805.07
Fertilizers	1,008,329.00	1,629,137.75
Cork wood or cork bark, unmanufactured	1,030,695.00	902,047.00

TRADE ITEMS.

The Robinson & Ball Drug Company of Jacksonville, Fla., has gone out of business.

Messrs. Richardson, Lawrence & Pike, of Boston, and Rust Bros. & Bird are to unite on January 1st, under the title of the Rust & Richardson Drug Company.

The firm of Burgess & Newton, of New Haven, Conn., has been dissolved by mutual consent, and Mr. Geo. H. Burgess will continue the business under his own name.

The Bankruptcy bill introduced by Senator Hoar on Saturday is what is known as the Torrey Bankruptcy bill, approved by the Commercial Convention at Minneapolis last fall.

The Kelly Medicine Company has been established at Chicago for the manufacture of medicines and toilet articles; capital stock, $100,000; incorporators, S. D. Kelly, C. L. Kelly, E. C. Kelly.

Mr. J. Seaver Page, of the firm of F. W. Devoe & Co., was honored by being placed on the committee of entertainment at the merchants' dinner given last week at Delmonico's for the South American delegates to the Pan-American Congress. Mr. Geo. W. Betts also represented the same house at the banquet.

Mr. Edward G. Frothingham, a practical druggist of Haverhill, Mass., has been appointed drug examiner at the Boston Appraisers stores, in place of Andrew H. Ward, resigned. The salary is $2,500.

Messrs. S. Adler's Sons have painted their store front a brilliant green and the building is now very conspicious in contrast with the adjacent structures. They have also put up very handsome silver and green signs with the new firm name thereon.

The committee which has been authorized to ascertain the cause of the decline in the price of membership at the Produce Exchange has posted a notice asking members to contribute their views on this subject. The replies received will be submitted by the committee to the Board of Managers.

A large supply of mistletoe for the holiday season will be found at the seed headquarters of Mr. F. E. McAllister, No. 22 Dey street. He can always be depended upon every season to furnish a fine quality of mistletoe, as he has special arrangements for obtaining it and is enabled to sell at very reasonable figures.

Professor Atwater, of Washington, D. C., who was offered the directorship of the State Experimental Station at New Brunswick, N. J., has declined the position on account of pressing engagements. President Gates of Rutgers, has been temporarily appointed and will perform the duties until some person can be gotten to fill the place.

The old drug and chemical house of R. A. Robinson & Co., of Louisville, Ky., will be dissolved on January 2, and the business transferred to the Robinson-Pettet Co., who will conduct it as usual in the same building. The officers of the corporation are as follows: Chas. H. Pettet, president; Wm. A. Robinson, vice-president; Worthington Robinson, secretary; A. Lee Robinson, assistant secretary; Chas. P. Barton, treasurer.

The Secretary of the Treasury has affirmed the action of the Collector of Customs at this port in assessing duty at the rate of 2c per pound on dandelion root on the ground that it is used as a substitute for coffee. The importers claimed, that while the American dandelion, as chicory, is used in place of and in conjunction with coffee, the imported article is a crude drug root, and as such is entitled to free entry.

Messrs. Chas. Kaestner & Co., of Chicago, have furnished the following machinery supplies: To the Illinois Fire Proof Paint Company, Odin, Ill., one 20 inch Western mill and mixer; Johnson Magnetic Paint Company, Chicago, one pony mixer; L. Bauerly & Co., Petoskey, Mich., one 16 inch Western mill and mixer; Stearns Paint Manufacturing Company, Davenport, Iowa, one gang water cooled mills; Hecht & Zumach, Milwaukee, Wis., one 48 inch lead chaser, complete.

A foreign exchange says that sponge-banks have been discovered near the island of Lampedusa, on the south of Sicily, which appear likely to be very valuable. They extend to a length of 15 to 18 marine leagues, and are situated at a distance of 18 to 20 marine leagues to the southeast of the island, and are found at from 30 to 45 yards below the surface of the sea. All qualities of sponges, including very fine ones, are plentiful, and the banks are being a good deal worked by Greek and Italian fishermen.

Representative Atkinson has introduced a bill in the House providing that a patent shall not be refused or be invalid because first issued in a foreign country, unless the same has been introduced into public use in the United States for more than two years prior to the time of application for the patents: but patents are to expire seventeen years from the date of the earliest foreign issue, when the foreign issue is made prior to the one in the United States.

The proprietor of a patent medicine is liable in damages for an injury done to a person who takes the medicine according to the directions. This, at least, is the law of Georgia as interpreted by its Supreme Court. What is needed is a law that shall punish men who sell medicines warranted to cure all or nearly all the ills that flesh is heir to for obtaining money under false pretenses on proof that the pretended medicine is a fraud and a device to extract money from the ignorant, the credulous and the simple.—Philadelphia *Press*.

The Treasury Department has sustained the Collector at New York in assessing duty at 50 per cent. ad valorem on certain so-called "Bland' Pills" under the provision for proprietary preparations. The letter of the Department states that the merchandise is stamped on the outside wrapper, contains statements relative to signatures, labels and detection of counterfeits, indicating an undoubted claim of proprietorship in the preparation as thus put up, and that it is immaterial, therefore, that the formula for the preparation is published in the codex and referred to in the United States and National dispensatories.

Smokeless powders promise to be as numerous as explosives of the nitro-glycerine group. Every new moon brings into being a new smokeless powder: and, if we may believe the accounts of it, that now invented by Herr Swab, of the Stein powder factory in Austria, beats everything of the kind in point of efficiency. It burns slowly in the open air, giving off so light a smoke that it resembles the haze above an ordinary chamber lamp. It has scarcely any smell. But it ignites with extraordinary rapidity, giving to a projectile an initial velocity of 630 metres (693 yards) instead of 530 meters (583 yards). The invention of another smokeless powder by Herr Siersch is reported from Presburg, in Hungary. It is described as a "slate-colored triple azotate" (nitrate), and "most powerful."

PETROLEUM NOTES.

Several arrests of oil dealers were made in Philadelphia last week, the charge being that they had been selling low test oil.

The average value of refined oil exported during 1865 was 74·8 cents per gallon. In 1870 it was 30·5 cents, and in 1889 it was 6·6 cents.

Lineman's well, on the Walbridge farm on the north bank of the St. Mary's reservoir, O., is still doing 300 barrels. The Standard has one near it that has made 129 barrels each day for several months.

The Findlay Gas Trustees have drilled in 21 wells during the past year and never missed gas in a single instance, although several of the wells were not very large producers.

Several explosions have occcurred on board the British tank steamer Ferguson, at Rouen, by which one man was killed and four others were injured. The damage to the steamer is $150,000. The dock in which the steamer lay was badly damaged, the explosion being one of terrific force.

The Delaware Oil Co. is building two elevated tanks just north of the Lima Oil Co.'s tanks, and the T. C. & C. has the ground graded for another side track. It will be on the east side of the main line. The rails are already on the ground. This makes six loading tracks at Cygnet and ten for this field.—Lima *Times*.

The Toledo Gas Trustees' office is in receipt of reports from H. F. Gettleman, the superintendent, stating that the measurement of the last well drilled in on the Whitlock tract, east of Stuartsville, showed over 5,000,000 feet of gas a day. This tract is some distance from the other wells belonging to the city, and the large size of the well is something of a surprise.

The hundred-foot field west of Butler is being constantly widened and extended, and notwithstanding numerous producing wells shows no sign of exhaustion. R. B. Tylers & Co.'s well on the Cable farm, has been increased by further drilling from 25 to over 100 barrels per day. It is on the extreme west and is important as showing an extension in that direction.

A heavy deal in oil property was consummated at Butler last week, the Perrin Oil Company purchasing a block of leases on the Burton, Klinger, Winters, Martin and Cooper farms, on Thorn creek, consisting of 350 acres, with one drilling and eleven producing wells from Thayer & Crosby, of Pittsburgh. The consideration has not been definitely stated, but it is reported to have been about $40,000.

Calvin L. Brice, New York, Captain Asa S. Bushnell, of Springfield, O., and their associates, completed their work of bringing natural gas from the Mercer fields to Springfield, and in the presence of thousands of citizens, the gas blazed out brilliantly from the top of a stand pipe seventy feet high which has been placed in Fountain Square. The plant consists of nearly sixty miles of pipe and will supply 10,000,000 cubic feet of gas daily.

Although the amount of real sulphuric acid in spent acid in petroleum refineries is large, nevertheless it is with difficulty recovered, and does not pay for recovery by methods so far put forward. In Galicia the nuisance caused by this acid tar has been felt, and endeavors have been made to remove it. It is proposed to dilute the acid material and then to dissolve in it such metals as iron, zinc, and copper, and use the solution for the impregnation of such materials as wooden railway sleepers. It is stated that the impregnation answers exceedingly well, and especially when carried out hot at about 40° C.

For some time past there has been an interesting and hot struggle for territory along the bank of the St. Marys reservoir. Nearly all the farmers had leased except one old German who had withstood the wiles of everybody until Charley Lineman appeared on the scene. The farmer had a fine looking horse of which he was proud, and which was worth probably $150. Lineman, after looking the animal over, praising it, and telling the farmer about his stock farm, deliberately offered him $500 for his horse. The offer was accepted and the old German put in such a good humor that Lineman got the lease almost as soon as he could write it, and almost at his own terms. —Lima *Times*.

A report from Cameron, W. Va., says the operating and leasing of territory in West Virginia shows no indication of cessation, and most operators now regard it as a good investment. Those who have even heretofore regarded the district as rather flashy and mythical are now making efforts to secure good sized blocks and are paying fair figures. The geological theory that the thickest sand rock will be found at the foot of the ranges of the Alleghany mountains, which is regarded as the main anticlinal of this continent, has been confirmed by the drill. The "Big Injun," the thickest oil bearing rock yet discovered, is found in West Virginia at a depth of 1,550 feet and varies from 300 to 800 feet in thickness, while in Butler county it is found at 650 feet and has an average thickness of 100 feet, and the probabilities of large wells which are predicted are very reasonable.

CORRESPONDENCE.

This column is always open for the expression of public opinion, but the REPORTER assumes no responsibility for the views expressed by any correspondent.

Uniform Prices for Colors in Oil.

NEW YORK, Dec. 18, 1889.

Editor OIL, PAINT AND DRUG REPORTER:

A reading of to-day's issue of the REPORTER would indicate that considerable interest is manifested in the direction of securing the publication of a uniform price list by paint grinders for first quality of oil colors. It is but natural that we should guard our business interests with that jealous regard for independence that precludes any possibility of our being dictated to by any individual or aggregate of individuals. This plan seems to leave it free to a manufacturer to sell at any net price he pleases, simply aiming to secure a uniform publication of lists. In securing a uniform list there is much to be gained, while not a single feature of profit to any one is surrendered except it may be by the individual on whose property the material is applied. Has not the consumer—and by this I mean the individual house or property owner—had almost a monopoly for the past fifteen years at least, of the reckless competition of the manufacturers? Not like flour, clothing and similar staples is the paint industry. On the contrary in most all of its departments the output is limited; the increase made only in proportion to that increase of population whose ambitions and tastes are in the line of a better civilization. We occupy that middle ground where our productions are not considered either a luxury or a necessity—but unquestionably so far as profits are concerned reap the results of the business of the first character i. e. a decidedly fluctuating market; two years good, three years fair. If this statement is correct why not recognize it as a contingency of our business, and by common consent pull together to the end that so far as the ultimate consumer is concerned (who will have use for our products, say once in five years) he will pay the painter a somewhat better price for his work and the profits passed down through the various channels of business exchange will at last give a small crumb to the disconsolate paint grinders who for years past have been trying their best to maintain the quality of oil colors while hardly receiving a profit on first quality sufficient to furnish lubrication for their machinery. If the paint manufacturer, grinding pure oil colors, had no other department in which to employ his capital and continued in the sale of only this one line at the present popular prices, he might in a short time with prudence pull in his shingle and hang out the danger signal.

Some eight or ten years ago the list price of colors was almost cut in half and the move was quickly followed by the trade in general. How much was gained to the trade at large by this move every intelligent paint grinder knows. The change of publication of prices is to bring about in some degree the plan now existing in the glass trade, and which has worked so satisfactorily since its adoption. It has not prevented a manufacturer from selling at any discount he pleases, or from making his first quality as good or poor as he pleases. The same independence is left to the paint grinder, but it puts the trade on a better basis for intelligent and honest competition, places in the hands of the cross road merchant a uniform list with a better margin, takes from the final consumer a little better price thereby insuring to him the likelihood of a better quality of goods, and by thus diffusing a more liberal disposition on the part of the consumers of all colors, eventually secures to the manufacturer a better return on his investment and a dignifying of his calling by selling the goods for what they really are.

We can well afford to limit our suspicions and distrust of our competitor and see in each other a common willingness to elevate our business standards and thus secure more satisfactory results.

Hoping the delegates to the national association will be heard with no uncertain sounds on questions which they regard as vital to the welfare of the paint and varnish trade at large, I am, yours respectfully,

WM. H. KING.

The Internal Revenue and Alcohol Tax.

PHILADELPHIA, Dec. 19, 1889.

Editor OIL, PAINT AND DRUG REPORTER:

We see that in your issue of December 18, you have taken editorial notice of the able pamphlet of Mr. Alexander H. Jones, of our city, although the same has not been adopted or presented to the Committee on Legislation for consideration. We would, therefore, be glad to be placed on record in this matter, for the reason that—while we consider Mr. Jones' argument able—in our opinion the premises are wrong and the conclusions incorrect.

We think that the tax should be removed from alcohol used in the arts, on the lines laid down by the bill introduced in the Senate by the Republican party last year, which bill failed to become a law. It is true that some of the methods there proposed are vexatious, but this is a necessary accompaniment of the collection of internal revenue. We are in favor of the maintenance of the remainder of the internal revenue and the removal of the duties on raw materials, such as coal, ore and wool.

We believe the principle that because one person is protected anybody else has the same right to protection, is wrong in theory and injurious in practice. There is some grave doubt as to whether the government has constitutionally a right to impose taxes upon one section, or class, of the people, as is done in the collecting of customs, except to obtain supplies for its absolute necessities. Therefore, if Congress steps beyond this line, it can only be on account of the benefit to the people as a whole. We respectfully assert, therefore, that the only proper consideration of any measure of taxation is whether it will confer a benefit on the people, and that individual interests should not count as against the good of the whole.

It is a logical deduction from this principle that it would be perfectly right to protect one kind of business and not another, and that the decision should be based on whether it is desirable for the good of the country that the public should pay a tax for the benefit of one kind of business rather than another.

A second logical deduction is that, if it is found that the protection of both—the raw material and the manufactured article—prevents the free development and extension of the more intelligent class of labor, it is proper that the lesser should be sacrificed to the greater.

We presume no one will claim that because a veteran gets a pension for wounds received in the Civil War, any sick or lame person has the same claim on the government; and the two cases in our opinion are analogous.

This country is naturally an agricultural and mining country, and is protected on heavy materials of low cost by a freight of over three thousand miles. It is the design of the tariff to encourage a higher grade of labor that requires greater skill and intelligence than is employed in the production of coal, ore, or wool. The largest manufacturers of steel in this State ask for free ore, and, certainly, should have free coal, so that they may compete in debatable land such as South America. New England demands free coal and free wool for the same reason.

If the internal revenue were abolished entirely, it would make it impossible to carry out these reforms for a long time to come; and it is for this reason that we take the ground on which we desire to be recorded as standing.

It goes without saying that all the moneys collected by the internal revenue office should be refunded to the manufacturers on such goods as are exported.

FRENCH, RICHARDS & Co.

MISCELLANEOUS.

Another Firm in the Lard Business.

The refining of lard from the hog product alone will be commenced by Hand Bros. after after January 1, when a sales office will be established at 59 Beaver street, under the management of Mr. R. F. Van Ingen, who has had considerable experience in the business. Hand Bros have successfully managed the Davis Oil Company for some years and will continue in that capacity, the refining of lard being a separate and distinct business.

Officers of a Chemical Co. Elected.

The New York Chemical Club held a meeting on last Friday, and elected officers of the Knickerbocker Chemical Co. Mr. J. M. Goetchus of Messrs. J. L. Morgan & Co., was selected as president, and Mr. Leander Savage, of Martin Kalbfleisch's Sons Co., as secretary and treasurer. Directors were also elected, but Mr. Savage said the company was not in a position to give the names of the directors at the moment. It is understood, however, that the board comprises the following gentlemen: Messrs. J. L. Morgan, Jr., H. S. Deshon, Wm. M. Johnson, Eugene Waugh, J. M. Goetchus and Leander Savage. The officers and directors are to serve for one year. The company are contemplating having a New York office, but the location has not yet been selected.

The McKesson & Robbins Fire Sale.

The goods damaged at the recent fire in McKesson & Robbins establishment were disposed of at auction last Thursday on account of the Board of Fire Underwriters. The list was a long one, the catalogue containing no less than four hundred and thirty items, the bulk of which consisted of druggists' sundries, patent medicines and proprietary goods. The sale did not attract as much attention as might have been expected and there are few prominent names in the list of buyers, possibly because the character of most of the goods offered was not such as would prove attractive to the trade. Considering the extent of the fire the goods were in excellent condition, many having entirely escaped damage. In many cases the only thing that could be urged against them was that they consisted of remedies whose popularity had long since departed, goods that in all probability would never again have emerged from the obscurity of the storeroom but for the accident which threw them upon the hands of the insurance companies. The stock, however, did not consist entirely of such back numbers. On the contrary there was a large proportion of more modern preparations, fine chemicals, perfumery, etc., that would have brought good prices in the open market, but which were knocked down at a fraction of their real value to fortunate bidders.

A little over one-third of the stock offered consisted of crude drugs, chiefly powdered roots and herbs, in boxes and barrels, and these sold for a song, though in a few cases fair prices were realized. From the list we select the following as giving a fair sample of the way the sale went. These goods were taken from the third floor which was not damaged as much as some of the other stories:

		Lbs. each.	Cents.
2 boxes	tartaric acid	.50	22
10 "	powd. Chinese cantharides	.25	20½
5 "	cream tartar	.50	22½
5 "	gum tragacanth	.25	27
14 "	white castile soap	.25	7½
8 "	muriate ammonia	.25	8½
4 "	powd. seneca	.25	27
3 "	" golden seal	.25	9
3 "	" red bark	.25	9
4 "	" galangal root	.25	2
9 "	" rhubarb	25	16
9 "	insect powder	.50	7½
3 "	powd. calchicum root	.25	5
6 "	" aconite	.25	5½
4 "	" gum kino	.25	6
6 "	" canella bark	25	2
6 "	" ergot	.25	17
3 "	" Virginia snake root	.25	8
4 "	" gum arabic	.25	24
4 "	" worm seed	.25	2
3 "	" orris root	.25	4½
2 "	" cardamoms	.25	26
2 "	" cuivers root	.25	2
4 "	" cummin seed	.25	2
5 "	" gum benzoin	.25	12
8 "	castile soap	.25	9¼
55 "	" "	.25	9¼
30 "	" "	25	6¾
3 "	powd. calamus root	.25	2
3 "	" colocynth	.25	18
3 "	" Alex. senna	.25	10
3 "	" sugar of lead	.50	12
3 "	" Spanish colocynth	.25	19
2 "	" guarana	.25	85
1 bbl.	Virginia snake root		13
1 box	powd. licorice	.45	11
1 "	" ipecac	.25	$1 30
2 "	" colocynth	.25	18
1 "	ground columbo root		2
1 keg	matico leaves		12
1 bale	Virginia snake root		18
1 bale	alkanet		5
3 bags	rape seed		1¾
1 bale	Italian sage		1¼
1 bbl.	powd. gentian root		2
2 bbls	cut Mex. sarsaparilla		3¼
1 bale	Alex. senna		15

The Hospital Saturday and Sunday Collection.

This deserving charity should not be overlooked in the distribution of holiday gifts. Members of the different trades need only to be reminded of their duty in this respect for the cause to receive substantial support. The paint and oil trades last year contributed liberally through Mr. A. B. Ansbacher, who is Treasurer of the Auxiliary, and he will be pleased to receive subscriptions as usual. It is to be hoped that the drug and chemical trades will likewise respond to the appeal for aid. Collections in the trades and upon the exchanges are made through the medium of a uxiliary associations and committees, or by means of subscription lists sent to separate establishments, these lists numbering nearly 4,000. It is desired that in all cases employers and employes will make this a common cause; and, in return for the collection in the trades and professions, the association, through its hospitals, takes care during sickness of any contributing employee, or any one requiring free hospital treatment, who is recommended by a contributing employer.

Utilizing A Waste Material.

In the manufacture of one or two proprietary articles, Mr. James Gresham, of Brooklyn, has found it necessary to use beeswax from which he extracts the saccharine and gelatine matters, leaving a fine powder containing all of the other principles of beeswax. This latter substance has always been considered a waste product until lately, when experiments demonstrated its value for polishing fine surfaces such as furniture, silver, glass, &c. The discovery is considered important and will no doubt be turned to industrial account instead of the by-product being destroyed as formerly.

A Decision on Oil of Petitgrain.

The Treasury Department is in receipt of a letter from the United States attorney for the southern district of New York, in which he reports the trial in the United States circuit court for his district, before Judge Lacombe and a jury, of the suit of Richard J. Dodge and others, composing the firm of Dodge & Olcott, against E. L. Hedden, late collector of customs, which resulted in a verdict in favor of the plaintiffs, by direction of the court, in the sum of $34.21.

The question involved in the case was whether a quantity of oil of petitgrain, so-called, imported into New York in 1886, was dutiable at the rate of 25 per cent ad valorem under the provisions of Schedule A (T. I., 92) for "essential oils," as classified by the defendant (collector), or was exempt from duty under the provision in the free list (T. I., 577) for "Oils, * * Neroli, or orange flower," as claimed by the plaintiffs.

The United States attorney reports that the testimony adduced on the trial was to the effect that, at the time of the passage of the existing tariff act, and prior thereto, the term "oil of neroli" was well understood among merchants and dealers in drugs and essential oils in this country to include four different species or varieties, viz.: (1) "oil neroli Petate," (2 "oil neroli Bigarade," (3) "oil neroli Portugal," and (4) "oil neroli petitgrain;" and that while some proof was produced on the part of the defendant to show that the terms "oil neroli" and "oil of petitgrain,' were commercially separate and distinct and referred to different articles, yet that most of the witnesses who so testified on the direct examination admitted upon cross examination that for years prior to the passage of the existing tariff act they had heard the expression "oil neroli petitgrain" and seen the article so described in price lists and elsewhere.

The United States attorney further reports that it has come to his knowledge since the trial that several large houses at New York, prior to the enactment of the existing tariff, described the article in controversy in their price lists as "oil neroli petitgrain," and that he is satisfied that it will be impossible for the Government to establish that the article in controversy in this case was not commercially known at the time of the passage of the tariff act as "oil neroli."

The question having been submitted to the United States Attorney-General, under the act of March 3, 1875, that officer advises that no appeal or writ of error will be taken in the said suit.

In view of the proofs adduced on the trial of said case as to the character of the article in question and the said opinion of the United States Attorney-General, the Department sees no occasion for further litigating the question involved, and it therefore acquiesces in the decision, and instructs that upon due entry of judgment to take the necessary steps for its settlement and payment by forwarding the usual certified statement for the consideration of the Department.

Similar action may be taken with regard to other suits now pending where the question involved is similar in character and relates to the classification of "oil neroli petitgrain."

Future importations of such merchandise should be admitted free of duty under this decision, Department's ruling of June 24, 1884, being hereby reversed.

Bottle Makers Meet.

The Western Green-Glass Bottle and Vial Association met in Pittiburg last Thursday. No important business was transacted. The meeting resulted in an informal talk on the conditions and prospects of trade. The questions of prices, stocks and similar matters was deferred for further discussion at the meeting of the National Association which meets in Washington, D. C., January 17, 1890. Among those present were: W. D. Keeps, New Albany, Ind., Oscar Richey, Ironton, O.; William Elliot Smith, Alton, Ill.; F. C. Ball, Charles Boldt, T. F. Hart, Muncie, Ind.; C. B. Hoyng, Cellim, O.; David Reed, Massillon, O.; H. H. Clough, Elyria, O.; W. G. Gather, Cleveland; S. J. Tappan, Findlay, and J. R. Hankey, Bowling Green, O.

Several of the members of the association said that various propositions had been made several times to combine the factories, but that nothing definite had been done looking to the accomplishment of a consolidation. There were many reasons in favor of it, Mr. Hankey said, but he thought nothing would be done until after the National Association meeting anyway. The matter was referred to in an incidental way and will come up for more extended discussion at the National meeting next month.

Trade is reported sluggish, prices low and prospects dependent upon next year's fruit crop, for the demand for fruit jars, which is the principal product of the factories represented.

Exports of Petroleum from Baku.

Following are given the countries to which refined petroleum was shipped from Baku during the month of October, and the amount shipped to each:

Countries.	Cases.	Bbls.
East Indies	412,191	....
Japan	91,868	....
Turkey and Syria	90,320	....
Egypt	86,373	....
Germany	....	5,308
Belgium and Holland	....	18,799
England	....	87,414
Austria	....	55,282
Italy	....	22,187
France	....	8,789
Total	680,752	197,779

This makes a total of 16,696,470 gallons, and represents an equivalent of American crude oil of 22,262,960 gallons, or 530,070 barrels.

Resuming the Paris Green Trade.

Messrs. Chas. M. Childs & Co., of this city, have resumed the manufacture of Paris green after being out of that line for four years, and as they have put in the most improved apparatus for drying and bolting, which will give the article a richer and deeper shade and uniformity of color, it is to be expected that the efforts of this reliable firm will be properly appreciated. Only strictly pure Paris green will be made and sold on its merits, and the largely increased facilities will enable the manufacturers to cater specially to the large buyers, who should send for samples and prices. Attention is also directed to their fine colors, either dry, in oil and in pulp.

Chicago Paint, Oil and Varnish Club.

[Special correspondence OIL, PAINT AND DRUG REPORTER.]

CHICAGO, Dec. 21, 1889.

The regular December dinner and meeting of the Chicago Paint Oil and Varnish Club were held at the Union League Club house in this city on the evening of Thursday, the 19th inst., at 5:30 o'clock, there being a fair attendence of members, and the Hon. Carter H. Harrison, ex-Mayor of Chicago, being present as an invited guest.

After the reading and approval of the minutes of the last meeting, the president announced the absence of the treasurer, and called for reports from standing committees. None being presented, he, as chairman of the special committee appointed at a previous meeting to arrange for a uniform price on naphtha, reported that the committee had made every effort to secure the result desired but that in their judgment it was impossible at the present time to attain absolute unanimity of action. He asked what was the pleasure of the club.

A motion was made and seconded that the committee be discharged from further consideration of the subject.

Mr. Coffin thought that the motion should be so amended that the committee, if discharged at all, be discharged with thanks. He had not fully understood the statement of the chairman; was there any pronounced hostility on the part of jobbers?

Mr. Vrooman explained that the jobbers were united, but that one large dealer refused to assent. He saw no object in continuing the committee.

The motion, as amended—that the committee be discharged with thanks—was then put and carried unanimously.

The president stated that the secretary had been instructed at the last meeting to communicate with members of the club not present at that time, as to their sentiment with regard to the adoption of the report of the committee on credits, which had been then presented, and which conformed, substantially, to the recommendations of the National Association. He asked if such letter had been sent, and if so, what answers had been received.

The secretary, in reply, read responses to the circular letter which he had sent out, from some fifteen city firms, embracing all the leading houses in the trade. The general sentiment of the communications favored the adoption of the terms suggested. A few, however, thought that the wording of the report was not sufficiently explicit, while others doubted if it could be adopted in such a way as to become obligatory upon the entire trade. Several firms stated that they were already selling upon these terms, and there were some who hesitated to adopt them unless they could be assured that their adoption would be universal and made obligatory.

The president said that these letters expressed the feelings of members who had been absent at the last meeting, and asked what action, if any, should be taken in the premises.

A member suggested that he would like to hear from the committee on credits.

Mr. Cox, the only member of the committee present, said that he had not heard from his associates on the committee since the last meeting. Speaking for his own house, the Rubber Paint Co;, he would say, that their terms of credit already conformed to the suggestion of the committee, except as to a discount of 10 per cent for cash in fifteen days.

Mr. Person suggested that the committee on credits take charge of the correspondence read and consider the matter farther.

On motion, the letters were so referred, and the committee instructed to report again at the next meeting.

The president called the club's attention to the recommendations of the National Paint, Oil and Varnish Association as to topics to be discussed by individual clubs prior to the Detroit meeting, and called on the secretary to read the communication from the former body.

After the letter had been read the president expressed the opinion that the several subjects had better be discussed separately, and read the first topic, viz: "the adoption and use by color grinders of a uniform net price list for first quality colors ground in oil.

Mr. Cutler thought it best to omit the word "net" which he felt confident would not meet with general approval, and moved that it be omitted.

The motion was seconded and carried.

Mr. Kotzenberg wanted to know what "best" or "first quality" meant? He had bought a pigment not long ago, branded as first class, which he had found to be far otherwise, as a matter of fact. He thought that "first quality" should be confined to strictly pure colors.

Mr. Bradley thought it best to instruct the delegates to vote at Detroit in accordance with the general sense of the trade as voiced by the majority of those in attendance there.

The president thought it necessary that the club formulate instructions, in accordance with their previous determination. The subject, he thought, was one that called for action. He had received a letter written by Mr. W. W. Lawrence, of Pittsburg, president of the national association, calling special attention to the confusion arising in the trade under the operation of the present system, and asking that the various clubs throughout the country be requested to offer suggestions.

At the president's request, the secretary read the letter for the information of the members.

Mr. Kotzenberg again obtained the floor, for the purpose of reiterating his protest against the use of the words "first quality," in their present indeterminate sense.

The president thought that the question was not what should constitute first quality, but of the adoption of a uniform price for the same. He spoke of the difficulties which, as appeared by the published reports, had attended the deliberations of the Eastern clubs regarding this question. The question before the club was: Shall the delegates be instructed in conformity with the first suggestion of the national association, or not?

Mr. Kotzenberg insisted that first quality ought to mean strictly pure. He was not pleased with the nomenclature.

After some informal discussion it was moved and carried that the delegates to Detroit be instructed to use their best judgment in the premises.

The President then called the attention of the club to the second recommendation—the buying and selling all liquids by weight instead of by gallon—dispensing with the use of the word gallon entirely.

Mr. Senour asked if the term "all liquids" included mixed paints?

The chair thought that it did not.

Some desultory talk of a more or less general character followed, and Mr. Wright moved to lay the recommendation on the table. It was, in his opinion, impracticable.

The secretary offered a resolution to the effect that it is the sense of this club that the system of the sale of liquids by weight should be extended as far as practicable.

Mr. Kotzenberg moved to amend by making the recommendation applicable only to sales in quantities of one barrel or over, and the resolution as amended was carried.

The third recommendation—that manufacturers of mixed paints use the United States

standard gallon can instead of the "commercial"—was then read and the delegates were instructed to vote for it at the national convention.

The secretary read a letter from Mr. Lucas, secretary of the Philadelphia club, under the date of December 5, acknowledging the receipt of a communication from here enclosing resolutions of the Chicago club relative to rebates on white lead. The Philadelphia club, the writer said, had taken similar action on the 18th of April last, and in the judgment of that body it was desirable that all paint clubs throughout the country should co-operate in the same direction.

The secretary also read a communication from Mr. W. B. Templeton, secretary of the New York club, stating that the white lead resolutions of the Chicago club had been brought to the attention of the New York organization, and enclosing a resume of its instructions to its Detroit delegates.

The president asked whether it was the wish of the members to take up other topics outlined by the New York club. Some of them, he thought, were of considerable importance.

Mr. Person moved that further consideration be postponed until the January meeting.

Mr. Senour said that as one of the delegates he favored a continuance of the discussion.

Mr. Coffin thought that as the next meeting of the club would be held five days before the date of the assembling of the convention the subject might remain in obeyance.

Mr. Person's motion, having been seconded, was put and carried.

The president then in a few happy remarks ntroduced the guest of the evening, Hon. Carter H. Harrison, ex-Mayor of Chicago, sometimes familiarly known as "Our Carter."

Mr. Harrison said that he had attended many meetings and many banquets, and was always charged the fee of a speech. He had hoped that in attending a dinner of the Paint, Oil and Varnish Club he might not be called upon to pay this tribute, inasmuch as he would be unable to show any affiliation. He noticed, however, on the roll of members the name of the Rubber Paint Company. He thought that he ought to be a member of that firm. He believed that he owned the only patent and he knew that the house paid no royalty. Most of those present did not know that years ago in his back yard he had made rubber paint, and of good quality, too; and recently, while his house was undergoing repairs the paperhangers had found upon an inner wall some of this paint as hard and smooth as ivory.

No guild, the speaker said, deals in articles whose names are used in such diametrically opposite senses as do the paint, oil and varnish dealers. We speak of "painting the lily" and "dyeing the rose," and the painter's was really the highest art, his handiwork being the symbol of the loftiest ideas, and color being often the vehicle of thought. Paint is always with us. There is a legend of a famous Greek artist whose brush had pictured the luscious fruit with such fidelity that even the birds of Heaven had been deceived. The magic pencil of Raphael had drawn for us the face of a maiden, pure and modest, yet with the tenderness of a mother, from which looked forth the soul worthy to be awarded the glorious title of Mary of the Immaculate Conception. These are some of the ideas associated with paint. Yet on the other hand it was too often a cloak for the grossest fraud. Paint and putty covered up the sins of the carpenter and kept a poorly built house from tumbling about our ears. Oil was used to anoint kings and prophets and to consecrate those dedicated to God. It was rubbed into the limbs and sinews of athletes who, in their magnificent strength, resembled gods, and some of whom, like Ajax had dared to defy the gods themselves. Oil, too, was poured upon the troubled waters, which prayer had failed to still. And yet the "Oily Gammon" of Dr. Warren had made oil a synonym for pelifogging, hypocrisy, and rascality. Varnish too, brought out latent beauty and heightened that which was apparent. Yet varnish, like paint, was too often used for a cover for falsehood and trickery, and had become associated with the fictitious of an assumed morality. He would assume, however, that this particular guild dealt only in that which was pure. His democratic friend from the purlieus of Bridgeport (Mr. Kotzenberg) had seemed, to be sure, to be a dissentient, and had alluded to a grievance as to goods called "first quality." But he (the speaker) would tell no tales out of school. He had heard, during the evening, mention made of the price of naphtha, and he perceived from this that the members dealt in the oil which comes from the earth. This thought reminded him of what he had seen on the far off shores of the Caspian Sea. Some of his audience doubtless knew something of it, but he questioned whether any one present fully realized the wonders of the Batoum. There within the narrow limits of one square mile (exclusive of the central one-fourth mile, which had none) were 400 wells, distant, on an average scarcely more than twenty feet apart, and yet of equal yield and the flow of no single well affecting that of another. The speaker went on to give a general description of the Batoum district, dwelling particularly upon the independence of the several wells from each other and describing the mighthy burst of oil, gas and sand from one of them which had, in a few hours, covered up derricks and houses for acres around, before the steady flow began, which had deluged the surrounding territory, flowed over into the sea, ruined the owner and broken the heart of the engineer. Mr. Harrison called attention to the difference between Russian and American oil, saying that the former was neither so sticky nor so inflammable as the latter.

In the judgment of the speaker, it would be well for Chicago to expend some of the surplus energy which she is devoting to the World's Fair upon ar effort to abate the smoke nuisance. The use of oil would accomplish this. He then briefly described the use of petroleum as fuel on locomotives and steamboats in Russia, the ease with which it was handled, and its cleanliness, as shown by the white hands of the engineers. The oil, he said, was on tap as was water, and the flames were extinguished by the simple handling of a lever. Oil for this purpose sold in Russia at a price equivalent to $3 50 per ton for coal, and there was no smoke. Smoke cost the people of Chicago from $500,000 to $1,000,000 a year, and it might all be saved by the substitution of oil for coal, which would also result in a vast direct saving in another direction, inasmuch as the cost of the fuel now used in one-fourth of the city's houses would maintain a central repository for heat and light which would supply the wants of the entire population.

Mr. Kotzenberg said that he rose to propound his first motion since becoming a member, which was that Hon. Carter H. Harrison be made an honorary member of the club. It was fitting that he should be. Like Ulysses he had been a great traveler, and in his journeys he had visited Ireland, where he had become familiar with emerald green; England, where he had seen English vermilion; in Scotland he had seen Scotch yellow; in Germany, Berlin blue; in France, Marseilles and Paris greens; in Italy, Auxerres ochre; in Constantinope, Turkey red. In Asia, he had doubtless become acquainted with camphor, pepper and Chinese vermilion, although as to the latter, he would inform Mr. Harrison that all of that pigment used in this land was made in New York and Chicago.

The president said that Mr. Kotzenberg's motion would take the regular course, and be referred to the executive committee.

Mr. Coffin called attention to the fact that the next meeting would be the last before the annual meeting of the National Association, and urged upon the members the importance of a full attendance. As one of the delegates he wanted further instructions, as he should consider them strictly binding upon him.

The president coincided with and emphasized Mr. Coffin's remarks.

After which the club adjourned.

CALUMET.

The Detroit Paint and Oil Club.

The Paint, Oil and Varnish Club of Detroit held its second monthly meeting and banquet last Thursday evening in the private banquet hall of the Hotel Cadillac. The following were present: President, S. E. Pittman; secretary, Thos. Neal; vice-president, Ford H. Rogers; treasurer, Wm. Reid; Wm. Stridiron, of Berry Bros.; Louis Blitz, of the Detroit glass works; S. E. R. Harrington, Ideal Paint Company; John Schroeder, T. F. Comerford, Detroit Linseed Oil Company; Chas. Gibson, of Boydell Bros.; Mr. Price, of Kaighen & Price; C. B. Shotwell, secretary of the Detroit White Lead works; W. L. Davies, president of the Acme White Lead and Color works, and Thomas Wadill, representing Sherman, Williams & Co., of Cleveland.

After an elaborate dinner Maj. Rogers read a paper on "Trusts" prepared by Theodore H. Hinchman, who was unable to attend.

Messrs. D. O. Haynes & Co., and Louis Blitz, were admitted to membership.

Secretary Neal read three propositions submitted by the National Paint, Oil and Varnish Club, which holds its annual meeting in Detroit January 21 next, and to which Maj. Rogers is a delegate, asking that the delegate convey the sense of the club: 1. The adoption and use of a net uniform price list by all color grinders for first quality goods. Discussed at length and the club refused to take action until after the manufacturers shall adopt a uniform quality. 2. The buying and selling of all liquids, linseed and turpentine included, by weight instead of measure, and the adoption of the United States standard instead of the commercial gallon. Indorsed. 3. That manufacturers put up their goods in United States standard gallon cans, 231 cubic inches, instead of the commercial can. Indorsed.

The entertainment committee, supplemented by the vice-president, treasurer and secretary, were directed to submit at the next meeting of the club, January 16, a plan for entertaining the delegates to the national convention, who will number about seventy-five.

Mr. Davies stated that Detroit dealers were discriminated against in the matter of freights, and a resolution by Wm. Stridiron, asking the national convention to appoint a committee to wait on the classification freight committee in New York, to labor for amends in the matter, was unanimously adopted.

A resolution by Mr. Neal was adopted to the effect that it was the sense of the club that the national convention should endeavor to procure concessions from the white lead trust, manufacturers of dry white lead, linseed oil and varnishes, to buyers in large quantities.

At the next meeting of the club the matter of establishing a credit bureau in Detroit for the better collections of bad accounts will be discussed.

Petrolia, Pa., in Ashes.

The little town of Petrolia, once one of the liveliest oil towns in the country, was desolated by a fire which broke out early Sunday morning, raged fiercely, helped by a high wind, until the business portion of the town was destroyed, a blow from which the place will doubtless never recover, and its 700 inhabitants will seek some other town.

The fire originated in Klingensmith's grocery and burned along both sides of Main, Argyle and Fairview streets, destroying practically all of the business houses and many residences. The fire plugs were filled with mud and no water could be had under such hopeless circumstances.

Little or no effort was made to fight the flames. It was all the sleeping inhabitants could do to get out with their lives and wearing apparel. Nothing of value was saved from the burned district. Fortunately no loss of life is reported and no one was seriously hurt.

It is impossible to put anything like an accurate estimate on the total loss, but it will range between $85,000 and $100,000. The thickly populated portion of the town on the north of Main street, between Argyle street and the offices of the United Pipe line, including the latter and on the south side from the bank, which is still standing, to Fairview street, is destroyed. About forty buildings were destroyed.

The loss to the merchants is very severe. They saved neither building nor stock, and it is believed that in most instances there was very little, if any, insurance on either, as the buildings were generally frame and the insurance rate was so high as to be almost prohibitory.

The "Tommie James" well, struck by Nimic & Nesbit at Petrolia, in 1871, was the first oil development in Butler county. Since then Petrolia has been the oil center of that district. It has always been a live frontier town until recently. A large oil exchange prospered there, and it was the headquarters for many of the largest operators in the Pennsylvania region. H. D. Taylor, one of the leaders of the Producers' Association of the Union Oil Company; John Satterfield, L. H. Smith, ex-president of the New York Oil Exchange, and other men of note in oil circles, have been located at Petrolia, where they managed an extensive business.

The old Central Hotel, which was destroyed, has long sheltered oil speculators and land owners from all sections. It was here, too, that the ex-pugilist, Ben Hogan, who achieved fame as the wickedest man in the United States for a time, had his stamping ground, and was the center of much dissipation and crime. It was when driven from Petrolia that Hogan embarked upon his "Floating palace," in which, upon the river, he conducted a gambling and dance hall for the edification of the fortune seekers who at that time flocked to the oil region.

Among oil men Petrolia will live in history as the place where what is known as the fourth sand, i. e., fourth strata, in which oil is produced, was first discovered. This opened up to the world a new source of production, and has added millions of dollars of wealth to the oil men's fortunes.

The Proposition to Sell the Phosphate Beds.

The proposition on the part of the State of South Carolina to sell its phosphate deposits, was the subject of very general comment in Charleston last week. The bill, which was reported by the Ways and Means Committee, proposes to sell the right, title and interest of the State in the phosphate deposits for a sum not less than $7,000,000, which sum it is proposed to devote to the payment of the State debt, which is about $6,000,000.

Quite a number of the phosphate men in Charleston were spoken to on the subject the substance of their remarks and opinions being herein given from the *News and Courier*.

"What do you think of the proposition?" a reporter asked Major Ed. Willis, who makes phosphate lands and phosphate interests a specialty.

"Well," replied Major Willis, "in the first place it is a question if the State is free to sell, but if so, I would say that if the sale be not loaded with too many exceptions to the purchaser, and if there be no vacillating legislation about it, so that a man may know what he is buying, I should favor the proposition; of course if the State should receive a good sum for its rights."

"What would you consider a fair valuation for those rights?"

"I think that a sum that would pay 5 per cent. interest on it would be a fair price. I think $5,000,000 a fair price."

"How much does the State derive annually from the royalty in round numbers?"

"In 1880 it was $65,000; in 1881, $125,000; in 1882, $140,000; in 1883, $130,000; in 1884, 151,000; in 1885, $172,000; in 1886, $191,000; in 1887, $202,000; in 1888, about $187,000; in 1889, about $225,000. These are only approximate figures, but practically accurate."

"Where is the river rock now being mined?"

"Mostly in the waters around Beaufort, in Bull River, Coosaw River, and the neighboring creeks."

"Are you of the opinion that the best fields for rock have already been worked?"

"I think a great deal of the available rock has been moved; I mean the rock that will pay for mining."

"Is there any way of determining the amount and the acreage of the rock owned by the State?"

"It can be ascertained measurably by a scientific man who would receive proper compensation for his services. That should have been done twenty years ago. I think a chart should be made of the river rock beds just as charts are made of oyster beds in our own and other counties. This would allow the valuable deposits to be systematically mined."

"How do you estimate the amount of river rock at present under the State's navigable waters?"

"You ask me a question on which professors and experts differ widely. My opinion, or my guess, will therefore be as good as theirs. Prof. Otto A. Moses, who is a bright fellow and well up on the subject, and who has written an excellent article on it, says that in the State's territory there are about 9,000,000 tons of rock. Prof. Colton, of New York, says that the whole phosphate territory of the State is about 480,000 square acres and will produce 1,200 tons per acre, making a total of 576,000,000 tons. He assumes that amount to be about equally distributed on land and under the navigable streams. According to him, therefore, the State should control about 230,000,000 tons. But his is big guessing."

"How much has been paid the State out of the river rock royalty?"

"About $2,000,000, representing $12,000,000 in money values, the State receiving about one-sixth."

"How would the sale of these rights affect land mining?"

"I am not fully prepared to say. The sale would, however, I believe, largely increase the value of phosphate land generally. I think that the State has induced money to be expended to mine rock in its rivers and should move carefully before it parts with its most valuable rights. To-day its lands pay into the State treasury over 25 per cent. of every dollar received by the State from all sources. It has reduced taxation in every part of the State. I don't know that there is anything more to say about it at present."

Col. William Gregg said that it was such a good proposition that the State should not lose the opportunity of selling at the figures mentioned or considerably less. Col. Gregg believes that the supply of river rock and of land rock is not inexhaustible. He thinks that the river rock will be exhausted in less than fifteen years, and the land rock in less than twenty-five years. He would advise the sale if it be practicable.

Another well-informed expert said that the State could not and should not make the sale. It certainly, he said, had no moral right to sell this property. The State should consider that a vast amount of money has been invested in plants by the river rock companies now in operation, as, for instance, the Coosaw, the Sea Island Chemical and others. It is also doubtful if the State could make a title, because it is believed that some of the charters issued by the State would prevent a sale for many years to come. The holders of such charters would certainly make a vigorous fight at any rate. It might be said that some of the companies had made money enough and could afford to quit, but that would scarcely apply to the new companies. The State should not break faith with its lessees. It would perhaps be just as well not to be in a hurry considering the agitation of the phosphate finds in Florida. It would be a suicidal policy on the part of the State to make the sale.

A representative of the Etiwan Company said that the proposition was a good one. He believed that if bought by a syndicate of foreign capitalists they would work the rivers systematically and not as is done now by those who lease from the State. The State, it should be remembered, has no capital involved, and makes no effort to increase its returns from its possessions. If a purchaser were to invest $7,000,000 in the river lands he would be active and energetic to make such a large investment pay. The works would be trebled or quadrupled and capital would flow into the State and the phosphate industry at sea and on land would receive new impetus and energy.

Another expert said that he didn't like the scheme. "I like the minority report," he said. "I believe that one of the river boat companies is at the bottom of the whole business. You can't tell me about $7,000,000 being a good price, and try to scare me with the idea that the river rock is fast being exhausted. Why, down on Bull river a dredge will work in a certain spot one day and return a week afterwards to find twice as much rock as there was there before. Trying to sell for $7,000,000 means that somebody has made some other bodies believe that there are really left in the navigable rivers about 2,600,000 tons of rock putting it down at $3 a ton. Isn't that preposterous on its face? Why, two of the

companies have up to date only taken up 2,000,000 tons. Don't you know also that, considering the great area of rock under water, that they have only begun to lessen the amount!

"Now what about the syndicate, or, if you please, the trust, that will buy it? They say that there is not to be any trust, because the land companies with their production would be a check on the trust, in other words that there would be competing markets in sources of purchase. That might be so, but I believe that one or two of the big land companies would enter the trust and knock that hypothetical argument into a cocked hat. Then where would the farmers be? It strikes me that they ought to know from their experiences with the Jute Trust. With what fertilizer would they fight the Phosphate Trust? Cotton vs. jute was a good fighting fact and principle, but in the case of a phosphate monopoly it would be zero vs. phosphate. The manufacturers find it hard enough already to sell fertilizers. How will the farmer like to pay more when the fellows who sell the crude rock can ask for it what they please?

"As to getting rid of the State debt, that of course means to relieve people of the burden of paying the interest on that debt. Well, the people need not be burdened with it if the phosphate royalty be made to pay it. Why can't the amount of royalty be increased? I don't mean that the State should charge more than $1 a ton royalty, but I mean that the number of mining companies could be increased. I don't think it exactly wise to lease to any one company say fifteen square miles of territory and let them allow the rock to lie there until they choose to dig it or mine it.

"There are numbers of capitalists who would like to take a hand in the bonanza. On fifteen square miles there might be ten companies at work, and there can be no doubt that they would produce just nine times as much rock as one company on fifteen square miles. That means, too, nine times as much royalty. By such liberality, and no exclusive rights granted except in small areas, it would soon be found that the interest on the State debt could be met and over met every year. The 'dear people' would not then be called upon to 'groan' under that tax for the interest on the State debt."

The following editorial opinion is from the Charleston *News and Courier*:

"The phosphate bill ought to be killed without debate or division. It provides that the sinking fund commission shall sell the right, title and interest of the State in the phosphate beds and deposits in the navigable streams of South Carolina, and apply the proceeds to the payment of the State debt. A more pernicious piece of legislation has not been attempted since the days before the political revolution of 1876. It provides in effect for the establishment of a gigantic monopoly, and that the State shall surrender one of the most valuable of its franchises to a combination of capitalists. Such legislation is opposed to sound public policy, and cannot be commended even upon the ground of the most doubtful expediency.

"The objections of the minority of the Ways and Means Committee to the bill afford sufficient good and substantial reasons why the measure should be defeated. A subject of so great magnitude cannot be properly dealt with in the expiring days of the session; the members of the legislature have absolutely no knowledge as to what the sinking fund commission is authorized to sell; the surrender of the entire phosphate interest of the State into the hands of foreign or domestic capitalists would result in direct injury to every farmer in the State, and would eventually wipe out the entire capital of every fertilizer manufactory in South Carolina.

"The objections are legion to this measure, or to any measure of similar import. The State debt does not mature until 1893. There is little doubt that it can be refunded at a lower rate of interest than is paid under the present settlement. And if it shall become necessary for the State to sell its phosphate deposits, the sale can be authorized as well next year or the year after next, and doubtless to much greater advantage, than if such sale should now be authorized by a legislature whose members will soon resume their places in the walks of private life. The extent and value of the phosphate deposits are not known. The estimates placed upon their value vary from $9,000,000 to $256,000,000—no estimate has yet been made so low as $7,000,000, the minimum price fixed by the Evans bill upon the property of the State. To 'go it blind' on such a question as this would be utterly without excuse. The members of the General Assembly may take it for granted that if the phosphate deposits of the State are worth $7,000,000 to any combination of capitalists, they are worth far more than $7,000,000 to the State itself. The State should aid in every legitimate way the development of its phosphate property, but should preserve its right and title to every foot of the territory which it controls.

"With the river and marsh phosphate beds of the State in the possession of a Phosphate Trust, the Trust would be able to control the markets of the world. The State would lose the steadily increasing royalty which it derives from this source, it would be necessary to contract new debts for the support of the Government, and in the end we should in all probability have a new debt with no resources wherewith to meet our obligations except the increase of taxation and the steady fall of the sheriff's hammer. Should the Trust secure the ownership of the river phosphate beds, it would engage in the manufacture of fertilizers. In South Carolina not less than $5,000,000 is invested in the business of manufacturing commercial fertilizers. This large capital would be jeopardized by the establishment of the new Phosphate Trust. The State might get rid of its debt by the sale of its phosphate beds, but in the end the farmers of South Carolina would have to pay the piper."

The New Orleans *Times-Democrat* says: "The bill is introduced by W. D. Evans, of Marlboro. The argument for its passage is as follows: Putting the royalty which the State would get at $225,000 annually for fifty years, which is as long as the phosphate is likely to last, the State's revenue would aggregate $11,250,000. The interest on the public debt during the same period would aggregate $12,000,000 or $1,000,000 in excess of the royalty. At the end of fifty years the debt would become due and there would be an excess of $8,000,000 over the phosphate royalty derived by the State, while on the other hand if the lands are sold now and the State debt extinguished, it would save the State the amount of $8,000,000. Men interested in phosphate lands and intimate with the business, estimate the value of the State lands at from $5,000,000 to $7,000,000. There will be a hard fight over the bill."

The Terre Haute Petroleum Belt.

BY PROF. C. A. WALDO.

In 1819 oil was found in two salt wells bored on the Muskingum river, Ohio. A flowing well was found in a similar way at Burkesville, Ky. In neither of these cases, however, did the value of the discovery become apparent until 1854, when the well-known report of Prof. Benjamin Silliman, jr., was made upon the oils of Oil Creek, Pa. This report attracted some attention in New York and New Haven, but it was not until 1859 that anything notable had been accomplished. On August 28th of that year, Col. Eli Drake struck oil at Titusville, Pa., at a depth of seventy-one feet, in a well bored expressly for oil. He thus took a place in history as the pioneer in developing a new product of the greatest importance. Soon after this discovery, oil was obtained at Enniskillen and Gaspe, Canada West, and the remarkably rich territory of Santa Barbara county, California, was explored.

The next extension of the field was the discovery of oil at Terre Haute, in 1865, in a well in the heart of the city, drilled by Chauncey Rose, to obtain, if possible, an artesian well of soft water for the Terre Haute House. Two more wells were bored at Terre Haute in the sixties, and these were in search of petroleum; the first on the bank of the Wabash struck a slight flow of gas, which has continued to this day; the second, near the Terre Haute House well, struck flowing oil, but owing to the distance and conditions of the markets, it was plugged and abandoned. In 1872 the State geologist called attention to the petroliferous rocks of Jasper county, Ind. But while there were abundant indications, "pay oil" was not found. The same may be said of Lawrence county, in 1872; of Brown county in 1874, and of Crawford county in 1878. In each of these four counties the presence of large quantities of oil in acccssible rocks has been abundantly demonstrated, but up to the present time there is no evidence that there exists the necessary geological conditions for its accumulation. That these necessary conditions will not hereafter be found is by no means certain. As might have been expected, the drilling for natural gas has developed in the state several areas of "pay oil."

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Further investigation has developed the following facts: Oil has not been found to any extent in Tipton county. At Warren, Huntington county, three wells were drilled in search of gas. No. 1 was put down in the spring of 1887, and was 980 feet to the Trenton. Considerable oil was found, but the well was spoiled by blasting. No. 2 was about a mile and a half from No. 1 and was 970 feet to Trenton: oil found in much greater quantity, and it stands in the well 600 feet. No. 3 was located six miles south of No. 1, and was 960 feet to Trenton; a flowing well, perhaps fifty to seventy-five barrels per day. This oil represents closely that of the Lima field. The territory is on the north margin of the Indiana gas field.

At Portland, in Jay county, there have been six wells up to the present time showing oil; the first three only a small quantity, the fourth yielded, by pumping, about 25 barrels per day, the oil rising in the casing to within 200 feet of the surface in about three days.

The fifth flowed about 25 or 30 barrels per day, and is still flowing. It was drilled four or five months ago. These wells are about 975 feet deep. It is a curious fact that this is almost exactly the depth of the Warren wells, though the latter must have been a greater depth below sea level. As is well known, the great Indiana gas belt trends to the northwest, and includes Muncie, Tipton, Kokomo, Peru, and other towns in its area. Portland and Warren are upon the northern edge of this belt, and exemplify a law now recognized that a gas territory is bordered by oil deposits. Neither are the oil areas small, as will be seen when we remember that at Warren there were wells six miles apart showing oil, and at Portland four miles apart. The exploration of the country has but just begun. The probabilities are that a number of Trenton deposits will yet be found in Indiana which will recall the Lima field, if they do not rival it.

The problem as it now stands at Terre Haute is of more than local interest, from the fact that it raises strong expectations that horizons in the state other than the Trenton will be found productive. In 1866 operations were begun on the bank of the Wabash, near the artesian well and the bath house. The old well at this point had yielded from the first a small supply of gas in a strong flow of sulphur water. It was believed that if the well had been properly cased and packed it would have been a gas gusher. Acting upon this supposition the second river well was located near the first. After encountering and overcoming many obstacles it was abandoned at a depth of 2,700 feet. Trenton having been pierced a few feet. In the fall of 1888 the same company of enterprising and public spirited gentlemen began a second well about 500 feet north of the second Rose well and nearly a mile east of the Wabash. On the 12th of May, 1889, the drill broke into a shelly, porous limestone at about 1,130 feet below sea level. On withdrawing the tools the oil spurted fifty feet into the air, and before the well could be controlled hundreds of barrels of oil had flowed through the city sewers into the Wabash. The first flow was at the rate of 1,000 barrels per day. Now, after the lapse of seven months, it is flowing at the rate of eighty barrels per day, thus presenting a record equalled by few in the best fields; for this well has never been shot, pumped or agitated in any way since the drill first opened the flow. It is known as the Diall well.

Immediately a large number of stock companies sprang into existence, and began drilling in various directions, but without concert of action. The favorite location was the line of the Vandalia railroad, because of its northeasterly trend from the Diall. The contractors were largely instrumental in this choice of direction, most of them coming from the Ohio and Pennsylvania fields, and believing that conditions existing there were to be repeated here. Over $40,000 were expended in these drillings, with little apparent result. By these companies seventeen additional wells were started in the immediate vicinity of Terre Haute. Of these eleven have been driven into or below the oil horizon, one is near completion, five have been abandoned at a depth of from 900 to 1,600 feet. Of the 11 completed wells, one struck a persistent fifty barrel flow, one had a show of oil, the others were "dusters." The problem presented is the location of the oil belt, if there is one, from these failures, the wells having been placed with little, if any, regard to scientific reconnoissance and development. Take a sheet of paper 16 inches long and 18 inches wide. At a distance of 2 inches from the left end, and parallel to it, draw a line. This is a north and south line. Upon it, at a distance of 4 inches from its southern extremity, make a dot, which we will call the Diall well. Beginning with the north and south line, divide the angular space about this dot into sixteen equal parts. Each smaller angle will be one of the 22½ degrees. Number the line north from the Diall 1; the next to the right 2, the third 3, etc.; the line to the south of the Diall 9, etc. From the Diall, as a center, lay off on 2 nine and one-half inches. Mark the point A. On 4 a point B at one and one-quarter inches, and a point E, at fourteen and a half inches. On 9 a point, F, at one and one-half inches; on 10 a point, G, at half an inch; on 11 a point, H, at two and one-quarter inches. From F, half way between south and southeast, and one inch distant, mark a point, K; north, a little east from C, a point, L, at one and three-quarter inches. These positions will be very close approximations to the actual exploitation by drilling of the Terre Haute field, the scale being about 500 feet to the inch. Of these, B, F, G, H and the Diall struck oil. The logs of the well were in most cases not well kept by the drillers, and the correlation of the strata of wells, a half a mile apart, was found difficult, perhaps impossible. At about 1,525 feet, however, they all struck a sandstone, varying in thickness from seven to twenty-five feet, under which was found a clayey blue shale, varying from twenty to sixty-five feet. This was followed by a highly bituminous brownish black slate, varying from forty-five to ninety-five feet, and parted about the middle by layers of blue slate. Immediately under this was found a white, shelly limestone—the oil bearing rock. It was necessary to penetrate this from five to eight feet to reach the oil bearing layers. There can be little doubt that we have here, in the sandstone, with its underlying blue shale, the knobstone group, while the black bituminous slate is the Ohio or Genesee shale, and the limestone immediately below it the coniferous or upper Helderberg or the Devonian age.

In every case there seemed to be a thorough and unquestionable indentification of the strata. Here is a porous oil bearing limestone and an excellent impervious cover. Is there an anticlinal reservoir? If so, what is its probable direction and extent? That the reservoir is not a mere pocket or fissure is shown, first, by its extent; second, its richness, and third, the character of its rock. First, two wells have struck oil, though neither in paying quantities, which are nearly a mile apart; second, the flow from the Diall would class it among excellent wells in any American district; third, last feet of drilling in this well was not into a cavern, but into a very open porous limestone. These three facts alone nearly, if not entirely, demonstrate the existence of an anticlinal. A further proof is found in the number of wells (five) that have struck oil, while the testimony of actual measure depth is conclusive of the existence of of a ridge. A struck the coniferous at 1,670 feet, B at 1,625 feet, C at 1,680 feet, E at 1,660 feet, F at 1,620 feet, G at 1,611 feet, H at 1,625 feet, K at 1,647 feet, and L at 1,680 feet. The exact depth at which the Diall struck this rock is uncertain, probably about 1,612 feet. While the surface of the earth is almost level over a wide area, the drill shows that between C and G, which are only a little more than ½ of a mile apart, there is a difference in the level of the top of the coniferous amounting to nearly seventy feet, A, B, C, D, and L, all show a rapid down grade to the north and east F, H and especially K show an equally rapid incline toward the south. If, with K as a center, a radius of ¼ an inch a circle be described and a tangent be drawn to the circle from H; then with C as the center and a radius three times as great, another circle be struck to which a tangent is drawn through B, it will be seen that the tangent lines are nearly parallel—that the numbers 1 and 3 nearly represent the respective distances of K and C below H and B, respectively. If this reasoning is correct, the following conclusions are more than probable: The Terre Haute oil belt is an anticlinal, about 1,000 feet wide at the Evansville & Terre Haute railroad, being bounded on the north by Chestnut street and on the south by Main street. It runs nearly east and west, with perhaps a slight trend to the southeast. It is Devonian in charecter, the strata above it being unconformable. If oil lies above the depth of 1,630 feet, the top of the Diall being datum level. There are probably other anticlinals north or south where gas exists. There are other facts in the strata that tend to confirm these facts.—Indianapolis *Journal*.

A Pioneer Petroleum City.

Rouseville is the oldest town in the Pennsylvania oil regions, having been the first town to spring into life under the wonderful stimulus of the oil excitement. It is located on Oil Creek, two and a half miles above Oil City, and it was here that the third well was drilled for oil, and on the McElhanny farm, a short distance above Rouseville, the first real "spouter" was struck. This was the famous "Fountain Well," which flowed a stream of oil over the top of the derrick, high above the tallest trees in the neighborhood, and started the great rush of people into this wonderful region.

This was once a great oil metropolis, with banking offices, scores of hotels and all the commercial facilities of a city. Being so near to Oil City and Petroleum Center its population never got above 10,000, if it reached that figure, but it was one of the most active centers in the belt of oil. It was surrounded by some of the most wonderful flowing wells of early oil days. The Widow McClintock farm, which fell into the possession of John Steele, afterwards known to the world as "Coal-oil Johnny," is within sight of this town.

Like all the oil towns, Rouseville has been swept by fire a number of times, and there is but little of the old town left. What is left of it is a curious old relic, in which there is little to suggest the bustle and excitements, and the fortunes lost and won in former days. "Coal-oil Johnny" is by no means the only man who found an easy fortune within sight of this queer old town. The first great oil fire was here, when the Rouse well was burned and the Hon. Henry Rouse, after whom the town was named, was burned to death, along with 16 other men. The story of this tragedy has been told in these columns and need not be repeated. It was the most appalling tragedy in the history of oil fires, and being the first it created a wonderful sensation. There has been talk of erecting a monument on the site of the first fire to honor the memory of the 16 men who were the first to perish in the development of the oil region. Col. Drake, who drilled the first oil well, has no monument yet, and the citizens of Rouseville do not believe that either monument will ever be erected.

If oil were found in a literal lake, instead of in a porous rock, Rouseville, like Petroleum Center, would have been situated over a lake of oil. A number of big wells were struck within the limits of the town and great "gushers" surrounded the town on every side. Not only were the Oil Creek flats here wonderfully prolific, but Cherry Run, which empties into Oil Creek at this point, produced some wells only second in richness to the Oil Creek wells. Some of the largest of these were near Rouseville, and it can be said that the wells in the vicinity have produced enough oil to have submerged the town. The money value of the oil taken from the ground near Rouseville is above $50,000,000. The Story farm alone has produced about $10,000,000 worth of petroleum, and still has a small production, perhaps 900 barrels a month.

The first well drilled at Rouseville, the third on the Creek, as stated, was put down by the primitive method of a "spring pole engine." This was no engine at all, but a stout sapling, or spring pole, to which the tools were attached. Three or four men would pull the spring pole down and the spring would lift the tools for the next stroke. This was called "tramping a well down," and as many of them were tramped down to the depth of five hundred and six hundred feet, the operation was very slow and tedious. No less than one hundred and fifty wells were put down on Oil Creek in this crude way before steam was applied to the work. Where three months was often required to drill a well then, one is drilled now in ten days, and even less.

The history of one of the big wells near Rouseville is the history of many, and will serve to illustrate the amazing richness of the oil belt in this section. The Reed well on Charry Run was struck in July, 1864. It was located on a lease of one acre of ground. The land interest was to receive one-quarter of the oil and the owners of the well the balance. one well was put down, and in ninety nays from the time of starting the drill $785,000 had been realized from it by the working interest alone. The Mingo Oil C mpany of Philadelphia bought out one-quarter of the land interest in the well for $280,000 after the owners had already sold $80,000 worth of oil from it. Mr. Reed, after selling $75,000 worth of oil from his account, sold to Bishop, Bissell & Co. half of his interest for $200,000. A man named Frazier had an interest in the well that netted him $100,000 in oil, and he afterwards sold his interest for $100,000 cash. Most of these sales were cash in hand. The Mingo Oil Company paid $280,000 for their interest in one payment. Three other wells were drilled on this one acre of ground, and from the four wells $2,000,000 were realized. This is perhaps the richest acre of ground ever developed in the oil country. The original owners were men of small means, and all became wealthy from this single transaction. Even the Philadelphia and New York companies who bought them out at such extravagant figures realized handsomely from their investment. There is no sign of the Reed well or any of its rich neighbors now. The places where the derricks and tanks stood are grown high with weeds and bushes, and from a mine of wealth the spot has returned to its primitive wildness and worthlessness.

All the oil that the Reed well produced was hauled away from it on wagons. Most of this oil was hauled to Oil Creek, a distance of a mile and a half where it was shipped in boats. So much teaming was necessary to keep the tanks empty that the road leading down to Oil Creek became a literal sea of mud. There was considerable rain and the roads became worse, until at last the hauling of a wagon through the mud became impracticable and boats and scows were put on in lieu of wagons. Boats that would hold from 30 to 50 barrels of oil in bulk to which a string of horses would be attached, were the odd conveyances employed to get the product of the Reed well to the creek.

William Reed who made somewhere near a quarter of a million dollars out of this well on an investment of less than $1,000, died two years ago a poor man. He invested considerable money in mining lands that proved a loss. After his death it was found that he had made large bequests to various charities in Pittsburg, near which city he has lived, but there was no property left to make these bequests good. The will had been made while he was a man of large wealth, and had not been destroyed.

The Petroleum Fields of Ohio.

Referring to a recent conversation with Mr. George S. Fowler, of Lima, O., upon the manner in which gas and oil is found in that favored state, Mr. Lorin Blodget writes to *Light, Heat & Power* as follows:

It has been the stumbling block of science to account for the presence of either oil or gas in any considerable quantity, and, therefore, it was for a long time the easiest way to account for them to deny that they had any permanent existence. If existing at all it was only as a temporary and vanishing phenomenon, and now that they are found to stay beyond their proper time, it is said that they are going very soon. I do not propose to attempt any explanation of their source, but Mr. Fowler's description of the strata in which they are found, throws a new light on the cause of their retention there for so many ages, to appear only when the drill is made to penetrate the refractory surface of the retaining rock—the Trenton limestone.

In all that country of Ohio the surface is flat, the soil is rich, and the contour affords no breaks of the strata through which any signs of the concealed wealth of oil and gas can come to the surface. On this general level the prospector is guided only by what some one has before done in boring. The ordinary clays and shells are penetrated 250 to 400 feet at a rapid rate of progress, as they are soft and yielding, but at the bottom a sudden resistance discloses the upper surface of the Trenton rock, and repeated blows on the surface are always required to make any impression. It is more resistant than ordinary granite for a few inches; a foot or more of the surface first reached, but it soon yields to the force of the drill. The interior is generally porous, soft and shelly, breaking up rapidly and at 10 or 12 feet of penetration the oil or gas flow freely, and the good wells largely 250 to 300 barrels daily. The first point of interest is this intensely hard shell or exterior cover of the limestone rock. Possibly it may be harder than limestone, and with some other element; but the point of fresh interest is that it is this impenetrable shell that has held the oil and gas for ages, awaiting the world's use now. All through the body of this Trenton rock the storage of hydrocarbons is complete and almost universal. More or less is found almost everywhere, but the smaller supplies are scouted as dry holes, and nothing less than a 30 or 50-barrel producer will be touched. Many of them may at first yield little, yet by a charge of dynamite, exploded a few feet above the bottom, within the Trenton rock, they are brought to a proper sense of duty, and straightway become 300-barrel wells for months and even years.

This porous exterior of the limestone is by an ingenious substitution called sand, and as it is found on strata of greater and less porosity alternately it becomes the first, second and third sand, in turn. The true oil prospector derides and despises technical geology, as well he may. The geological professor told him with oft-repeated emphasis that there was no oil there, and if he had not followed the wiser instinct of the headlong plunger, he would never have found either oil or gas. It was at Lima, as it has been many times before, the only path to success to throw away the advice of the learned.

A most interesting point is disclosed in the situation of the oil-bearing rock, and in finding that the lines of densest saturation of oil ran northeast and southwest; exactly 45° east of north and 45° west of south. On any such line, having once struck oil, it may be struck 20 times more by following an exact line of 45°. Each successful well does the exact duty of the first well, whether the precedent is set at 50 barrels or 250 barrels. And again the imprisoned or occluded gas; this also comes from the same Trenton rock; not from a vacuum or a cavern, or from underground piping of any description. Smite the rock, and it flows with terrific pace, nevertheless, and yet never wasting the rock itself. The gas is far more certainly permanent than the oil; it has been shut in by the same impenetrable cover, and it is diffused through the same strata of sand. Gas is also found abundantly on the favored lines of northeast and southwest extensions indicating some primeval order of arrangement that our finite minds cannot penetrate. But no matter how feeble all reasons are, it is certain that those who have sent down the drill in these sections have solved the mystery and have grown rich and powerful by its practical solution. The moral is: How much better it is to throw science to the winds and go in to win.

Perfumery Manufacture in Austria

The Vienna Chamber of Commerce reports that in spite of many adverse circumstances, the Vienna perfumery industry is steadily expanding. The wealthier classes in Austria, who formerly would only use French or English soaps and perfumery, are learning to appreciate the excellence of native manufactures, and since last year an export business, mostly with the East Indies, has grown up in certain goods, especially toilet soaps of medium qualities. Viennese glycerine soaps have been enabled to compete with English, French, and German made articles lately because drawback on the denaturalized spirit used in their manufacture is now granted to the Austrian makers, but hitherto perfumers have not been able to obtain an extension of the drawback regulations to alcoholic extracts and other perfumes. The German makers, on the other hand, enjoy complete immunity from any alcoholic duty on goods exported, and are consequently able to take much of the East Indian trade, which, but for these advantages, the Austrian makers would monopolize.

Collecting Medicinal Plants in Austria.

Large quantities of gentian root are collected in Austria, especially in the mountainous districts of the Tyrol, Salzburg, and Steiermark, for use in medicine and as an ingredient in the manufacture of expensive liquors. As the root is collected at the flowering period, before the seeds have ripened, and no regard is had by the collectors to the age of the plant, it is feared, says the *Chemist and Druggist*, that in a few seasons the indiscriminate collection may cause the total extermination of this valuable plant. In order to counteract this, the legislature of Salzburg has passed a law prohibiting the digging of gentian roots of less than two centimeters in diameter at the top of the root, which is about the average size of a plant of three years old. The fine for infringing this law is from 5 to 100 florins. Similar acts were passed a few years ago in other districts of Austria, for the purpose of preserving gentian, valerian, Iceland moss, and other economic plants; and in some provinces the collectors have to take out a license, and are strictly looked after by the police.

A Petroleum Well Episode.

When the oil excitement spread from Pennsylvania to Ohio, a German near Liverpool began to sink a well in his back yard. All the work was done by hand power, and his drills were of the cheapest make. He hammered away for week after week and month after month, until he was pretty near the roof over China. Then a few of us planned to give him a surprise and make life worth the living, or at least a few hours of it. We got a gallon of crude oil and poured it into and around the well, in which the drills were still at work. This was done at night, and next morning when we got around there, according to agreement, Hans was sitting on a bench, arms folded, and his pipe alight.

"What! Struck it at last," exclaimed one of the boys in great astonishment.

"Yaw, I haf struck her," was the calm reply.

"Really got oil! Old fellow, let us congratulate you!"

We all shook hands with him, got down and tasted the oil and inspected the well, and finally one of the crowd inquired:

"Hans, do you want to sell out?"

"Yaw, I sell out," was the complacent rejoinder.

"Well, we are here to buy if we can get satisfactory figures. You know as well as we do that your well will probably prove a hummer. It promises at least a thousand barrels a day."

"Meype two thousand," said Hans.

"Who can say? Now, then, give us your lowest cash figure, right off, quick. We want the well only. You can still live in your house. What's your figure?"

"Vhell, I take feefty dollar."

"What?"

"Vhas she too high? Vhell, I make it forty dollar. Dot pays for my tools and makes me all right."

"Why, man, do you mean that you only ask forty dollars for this thousand barrel oil well?"

"Dot vhas who I mean, und if she vhas too high I make it five dollar less. Shall we make oudt some paper?"

And we had to back square down and back out of that back yard feeling that we had been left. As the matter turned out the well would have been dear at 40 cents.—*N. Y. Sun.*

CHICAGO LETTER.

[Special correspondence of the OIL, PAINT AND DRUG REPORTER.]

CHICAGO, Dec. 21, 1889.

The unexpected in the linseed oil market has happened, and crushers have advanced their prices one cent per gallon, new oil in car lots commanding 57c as against 56c a week ago. The advance has been a surprise to the trade, having been made altogether without warning, and there is ground for saying that the determination to raise prices was made somewhat abruptly. There has been more or less conjecture as to the probable action of crushers in view of the tendency of the seed market, but it has not been supposed (nor have crushers admitted) that any appreciation in values was imminent. The general opinion has been that in view of the lateness of the season, the attendant falling off in demand and the fact that oil was already ten cents per gallon higher than it was a year ago, when seed sold at $1 63, or 17c higher than today, prices were likely to remain at the same figures which have ruled for some months past. However, "the powers that be" have seen fit to ordain otherwise, nor is their action wholly without justification. As nearly as can be learned, the advance is defended on the double ground of the steady upward tendency of the raw material, and the weakness of cake. The latter is perhaps accountable for much of the feeling of dissatisfaction which has induced the action.

On the other hand, there are those who look upon the rise as an arbitrary exercise of power, wholly indefensible by any application of the laws of supply and demand and as being entirely disproportionate to either the enhancement of the price of seed or the weaker feeling in cake. They assert that it is a move in the wrong direction and is as ill-advised as it is unprecedented at this season. In fact, in certain quarters there is a latent suspicion that there exists a disposition to attract buyers who may be alarmed at the prospect of still higher prices.

The latter view is, of course, peculiar to consumers and buyers. Probably, as is usually the case in such discussions, the truth is to be found between the two extremes. Nobody in particular wants much oil just now, and the maintenance of a stiff price during the dull season will not, to say the least, injure the chances of obtaining a more remunerative rate when the spring trade opens. Considered on the whole, as a business move, it may be fairly pronounced to have been not ill advised. It has, however, if anything, operated rather to check the very moderate inquiry which already existed, and neither manufacturers nor jobbers are likely to enter the market as purchasers except as forced by the exigencies of their wants. Undoubtedly, however, so far as regards this market crushers are at present decidedly in the ascendant.

So far as the condition of the cake market is concerned, it unquestionably does show a condition not particularly satisfactory to crushers. A mild, open winter has kept out of the market a large class of buyers who are anxious for lower prices, and it looks as though they had, at least partially, attained their point. Still, sales for the week foot up some 2,000 tons, which is by no means bad for the season of the year. The quotations given are $19 50 per ton, free on board here, and it is likely that most of the large sales have been negotiated at about that figure. There seems, however, to be a willingness to sell, and no improvement in tone is expected forthwith, unless Boreas comes to the relief of the producers. The following table shows the direct exportations of linseed oil cake from this port during the periods therein named:—

	Pounds.
Week of Dec. 21, 1889	1,765,720
Week of Dec. 14, 1889	1,775,863
Since Jan. 1, 1889	62,753,280
Same period last year	77,971,506

FLAXSEED.

The report of the inspector showed that the week opened with another slight accumulation of stocks, there having been 372,988 bushels (all of No. 1) in public elevators on Monday morning, as against 369,352 bushels of No. 1 and 1,006 of rejected (a total of 370,358 bushels) the Monday preceding. On the corresponding date of 1888, there were 879,763 bushels (all of No. 1) in sight.

As compared with last week, withdrawals have fallen off, the quantity inspected out this week having been 28,806 bushels of No. 1, as against 72,752 bushels during the preceding six days.

Receipts have been only moderate. Their amount and quality, as compared with the arrivals of last week and of the corresponding period of last year, are shown in the following tabie:

	No. 1.	Rejected.	No grade.	Total.
Week of Dec. 21, 1889	196	3	..	199
Week of Dec. 14, 1889	116	4	..	116
Week of Dec. 22, 1888	114	3	..	117

The following table shows the daily movement for the week, and for the same week of 1888, as reported by the Secretary of the Board of Trade:

	RECEIPTS.		SHIPMENTS.	
	1889.	1888.	1889.	1888.
Monday	13,324	15,468	6,018	8,522
Tuesday	16,363	17,755	7,803	23,604
Wednesday	10,588	17,531	10,805	19,226
Thursday	13,563	18,007	8,734	10,292
Friday	33,477	8,896	9,640	23,997
Saturday	10,748	12,857	4,724	19,860
Total	97,063	75,014	47,724	95,511
Last week	53,471	90,040	115,843	99,198

In the cash seed market, there were a number of buyers on Monday, and under the influence of fair inquiry No. 1 sold freely at Saturday's outside, transfers (mainly to go to store) being effected upon the uniform basis of $1 36½. The market was steady and firm, but there was not enough competition to cause an advance. On Tuesday, the number of buyers was reduced, and those who appeared lowered their bids to $1 35½, at which figures there were a few sales. The tone of the market on Wednesday was somewhat firmer, owing in part, no doubt, to a diminution in receipts and reductions in offerings. Sales of No. 1 were at $1 35½@1 36, mainly at the outside. On Thursday there was a fair cash demand; offerings were again very light, and the bulk of the sales of No. 1 was at $1 36½, although a small quantity sold early at Wednesday's outside figures—$1 36. Yesterday's market ruled quiet and firm, with sales of No. 1 at $1 36½. Offerings were small, only a part of the 28 cars received coming on the market. To-day there was a weaker feeling. The market at first was slow and dull and at the close there was a decline of 1 cent. Although receipts were more liberal, offerings continued very moderate, but there was little desire to buy. No. 1 declined from $1 36½@1 35½, sales being mainly at the inside, and there were two sales of rejected at $1 33@1 34½.

There has not been much shipping demand, and this was entirely wanting early in the week. It appeared as though a considerable proportion of the previous inquiry had been to replace borrowed lots, it having been an open secret that toward the close of navigation several round lots of cash seed were taken, to be replaced in December, the cash seed being wanted for loading to vessels.

Reported sales on the floor of 'Change for the week foot up 45 cars and 6 bags (delivered) of No. 1 and 2 cars of rejected, as against 80 cars and 109 bags of No. 1 a week ago. No. 1 has ranged within narrow limits--$1 35½@1 36½ as against a range of $1 56@1 63 during the same week last year.

The opening of the speculative market Monday showed no special inquiry for futures, nor was there apparent any desire to sell. About Saturday's prices were obtainable. That is to say, December was quotably the same as cash; $1 42 was bid for May, and a little January was offered at $1 37. No sales, however, were effected. On Tuesday, a weaker feeling was developed. Year delivery was offered at $1 35, with $1 34½ bid. There were sellers of January at $1 37, but $1 35 was the best offer from buyers. For May, bids were

reduced to $1 40, but sellers asked $1 43. The result was a stagnant market. There was not much business done on Wednesday, but there was perceptible a firmer tone. For May, buyers advanced bids to $1 41, but met with no response. A small quantity of year delivery sold in settlement at $1 35¾@1 36, and $1 35½ (or ¼c better than Tuesday) was bid at the close. The market showed more activity on Thursday, and better prices were obtainable, Year and January both brought $1 37, being an advance of 1 cent in the former, while the latter was a full ¼ cent above cash. A small lot of May sold at $1 42, or 1c higher, and there were buyers for more, had more been obtainable. Yesterday there were small sales of January at $1 36¾, or the same price as cash. Other futures were rather neglected, although there was some inquiry for May, for which $1 43, or 1c advance was bid, but sellers declined to accept less than $1 43¾. The only trading in forward deliveries to-day was in May, which sold at $1 42½, or ¼c@1c lower than yesterday's quotable figures. There is unquestionably a strong speculative interest in May seed, although of late not much of it has appeared upon the surface.

Sales of futures on 'Change have been:—2 cars and 10,000 bushels of year, as against 8 cars last week; 1 car and 10,000 bushels of January; and 6,000 bushels of May.

OILS.

The cotton oil market cannot be said to show any improvement, and buyers for present delivery are comparatively few. There are some sales for January and February delivery reported, but these are said to have been on p.t. The usual amount of delivery on contract is going forward, but the general volume of business may be pronounced decidedly light. The consumption is not up to expectation owing to causes which have been heretofore explained, and so long as the local market continues as it (it closed to-day at 5.87½c for cash) no improvement in values is expected. There are those who prophesy that the downward tendency of oil is not likely to be checked for some time to come. Crude is weak, although gilt edge quality will it is said, bring 29c, but there is not much of such stock in sight. Refined oils sympathize largely, and there are free offerings of summer yellow at 34@35c, although some brokers claim that they are receiving higher prices.

Between the weakness of lard, the use of substitutes and the lack of inquiry incident to the season the lard oil market is decidedly flat. Extra is nominally 49@50c, which is a shade lower. An easier feeling is perceptible, and the demand is very flat. For No. 1 there is a slightly better, though on the whole rather sluggish inquiry, and quotations may be said to be unchanged, i. e., 35@36c, with a slight disposition to favor buyers.

In the oleo market there is little of interest to note, The home demand continues about normal, with prices unchanged. The mild weather in keeping down the price of butter is injuriously affecting the oleomargarine market, which from this and other causes remains very quiet, and melters' interest continues to centre in Rotterdam. This week's exportations, however, have fallen from 5,187 tierces to 3,500, while sales abroad show a similar decadence, having dropped from 3,300 to 2,200 tierces, indicating a great Dutch market. Still prices have been well maintained: indeed, it is asserted that it is this maintenance of values which is retarding business. Fancy brands have ranged this week from 60@66fl, with good No. 1 at 53@54fl, and No. 1 salable at 41fl. The market abroad closed to-day quiet.

PAINTS.

The market continues quiet, with occasional sales to parties who find themselves compelled to purchase. There is absolutely no feature of interest about it.

White lead is rather dull, no one caring to buy more than he needs pending the decision of the corroders on the question of rebates. The remarks by Mr. Rowe at the last meeting of the New York Paint Club, as published in the REPORTER, have been read here with deep interest, and there is a general expectation that more satisfactory arrangements will be consummated at last. The question is one on which jobbers all through the West are keenly alive, and it is hoped that the existing quasi-estrangement between the two branches of the trade will soon be superseded by a satisfactory understanding.

Dry colors are as quiet as anything can be and move at all. There is a steadiness about the general list, however, which speaks well for the condition of the trade. Quicksilver vermilion continues to rule firm at former figures, but there is practically nothing doing and very nearly the same is pretty much all other pigments.

Dealers are awaiting with much interest the action of the manufacturers of Paris green. Some inquiry is springing up but one can learn of no sales. There is a general disposition to wait until the future shall have fully disclosed itself.

Mixed paints are in about the same request as usual at this time of year, and altogether there is nothing in the situation which calls for comment.

DRUGS.

The bulk of the trade has been confined to moderate jobbing orders, and comparatively little business of importance has been transacted. Jobbers report a rather fluctuating demand, and as a rule estimate the rates of increase over the business of last year at this period as being nothing more than normal. The general list remains steady, and in some articles, chiefly of minor importance, there is an upward tendency.

There is no change in the market value of opium, which remains steady at $3 50 for gum and $4 90 for powdered. Morphine shares both in its steadiness and its quietude, and local buyers consider that the course of the market in the East has justified their expectations.

Quinine, under the influence of lack of demand, is, if anything, a trifle easier. It is now quoted by agents in this market at 29c, but no one clamors for it. Local jobbers are fairly well supplied for present wants, and protected against any sharp advance by contracts for future delivery. There is little of interest in the situation. The jobbing price remains nominally at 31@33c, but it is quite likely that buyers would receive concessions if persistent in their demands.

Among minor changes in the general list may be noted the following: Gum guiac has appreciated 10 cents, selling to-day at 55 cents for lump and 60c for powdered. Powdered scammony has jumped from $4 per pound to $9 50, though nobody seems to know why. Guarana also is higher, bringing $2 50 per pound, with the powdered at $2 75. Peony flowers have advanced 10 cents, selling at 60c per pound, as against 50c a week ago, while, on the other hand, Roman chamomile flowers are about 8 cents lower, jobbing at 21 cents. Glycerine remains nominally active at last week's decline—20 cents in 50 lb. cans—while chloroform continues firm. Turpentine is lower, selling at 48@49c in one to five barrel lots.

CHEMICALS AND DYESTUFFS.

The chemical market is chiefly distinguished by firmness of line and a general dulness of business. The latter is attributed to the season by brokers, who generally profess themselves as fairly well satisfied with the volume of trade they are doing, all things considered. No marked change in prices is to be noted. Dealers are still confident of at least a maintenance of existing values after the first of the year and some of them are disposed to prognosticate an appreciation in prices. Some uncertainty is felt as to the course of salt cake and bleaching powder. Not too much confidence is reposed in the assertions of foreign correspondents, who prophesy a cessation of bearish tactics on the part of some manipulators of the latter, and there are those who think that the existing disproportion between the market value of salt cake and caustic soda cannot be kept up. This argument, however, is met by the assertion that the disproportion can be just as effectually cured by an advance in caustic.

SUNDRY NEW CORPORATIONS.

The following new concerns have come into existence this week:

The Camden Manganese Mining and Manufacturing Company, at East St. Louis, to manufacture manganese, black paint, etc.; capital stock, $600,000; incorporators, A. B. Howard, Richmond Hibbard and R. K. McGrath.

The Illinois Fire Proof Paint Company, of Oden, Illinois, has been dissolved, and will be succeeded by a new corporation.

The Centennial Manufacturing Company, at Chicago, for the manufacture of ink; capital stock, $100,000; incorporators, A. J. Dexter, Florence Dexter and John P. Ingersoll.

The Electro-Chemical Company, at Quincy, Ills.; to manufacture a patent medicine; capital stock, $10,000; incorporators, W. P. Williamson, C. E. Mitchell and W. D. Tappe.

The Josephine Moore Company, at Chicago, for the manufacture and sale of toilet articles; capital stock, $15,000; incorporators, J. J. Letchworth, C. L. Linthigum and J. W. Millington.

The Cowan-Balmer Company, at Chicago, for the importation, manufacture and sale of drugs; capital stock $10,000; incorporators, A. L. Balmer, George W. Warville and Archibald S. Cowan.

CALUMET.

NOTICES.

WANTED

A graduate of the University of Berlin (Germany) with thorough knowledge of analytical and organic chemistry, desires position as chemist in chemical or color works, Address: "S. R.,"

Care this paper.

Business Opportunity.

A young chemist (with capital) desires to form a co-partnership with a party in the manufacture of chemicals or colors.

Address: "J. A. B.,"
P. O. Box 2008,
New York City.

Retail Paint Store

For Sale in a large Western city. The business very prosperous; established over 5 years ago; must be sold on account of failure of health of proprietor; $2,000 to $5,000 capital required. Buyer must understand the business and give references. Address: "B.," care of S.G. McCotter & Co., 32 Cedar St., New York.

WANTED

A graduate of School of Mines and the University of Berlin, germany, desires to form a co-partnership with some reliable party in the Chemical Manufacturing business, could furnish extra capital to increase the business. Address:

"CO-PARTNERSHIP," care this paper.

Soap Business & Works Wanted.

Manufacturers having a large paying soap business and works in the United States, and willing to sell *for cash* can hear of intending purchaser by addressing:

ROBERT FREELAND,
Care this paper.

WANTED

Active salesmen, having established trade in Mixed Paint, Color and White Lead line, one in New York State, one in Pa. and Va. and one for New England States.

Address: "OCHRE,"
Care this paper.

Cottonseed Oil Business

Can secure man, ten years experience, understands both refining and manufacturing. Address:

"COTTON" 375,
Birmingham, Ala.

Axle Grease and Cup Greases.

Wanted to employ a man who has a practical knowledge of manufacturing the above articles.

Address: "GREASE,"
Care this paper.

WANTED BY JANUARY 10th, '90, position as salesman for varnishes, colors in Japan and oil; have good connection in Michigan Ohio and Canada. A1 references from present employers and good reason for wanting a change. Terms: one hundred and seventy dollars per month, includes traveling expenses.

Address: "HUSTLER,"
Care this paper.

TELEPHONE No 2031

Mfg's of DRY COLORS GREENS, BLUES and YELLOWS.

CHROME YELLOW for COLORING Ham & Beef CANVASS A Specialty.

WANTED

A varnish and paint salesman with an established trade in New York State and Northern Pennsylvania. State experience and refer to present employer and several customers. Name salary expected. Address:

"ONE OF THE LARGEST,"
Care this paper.

RARE CHANCE to rent a new paint factory 50x100 ft., complete with all modern machinery ready to run at once for making ready mixed paint colors, lead, putty, &c Large engine and boilers, mills, mixers, &c. Located in Philadelphia on both B. & O. and Penn. R. Roads, and in built up portion of city; rent reasonable. Address,

CHAS. K. SMITH, 123 Arch St., Phila.

WANTED

A salesman to represent an old established Paint and Varnish house in Philadelphia and vicinity. Must be familiar with the city and the business. State experience and amount of sales for past year.

Address: "PAINTS,"
Care this paper.

WANTED

Situation as superintendent of glue factory. Am engaged by Western firm, but desire a change. Have thorough practical knowledge of all the modern requirements of the business. First-class references.

Address: "GLUE MANUFACTURER,"
Care this paper.

Agency Wanted

For the N. E. States, in the Aniline, Color and Dyestuff business, by a party who has represented a New York House in Boston for many years in this line, and is thoroughly acquainted with the trade East.

Address, "L. M. G.,"
Care this paper.

Salesman

Well known and with good connection in the dry color and wholesale drug trade in this country and Canada, desires re-engagement from January 1st.

Address: "RELIABLE,"
Care this paper.

WANTED

An experienced and energetic salesman, one thoroughly acquainted with the drug trade in Western Pennsylvania and Eastern Ohio preferred. Give full particulars as to experience, references and salary expected.

Address: "DRUGS,"
Care this paper.

FOR SALE.

A first class centrally located Drug Store n Dayton, O., will invoice about $5,000. Splendid chance. Also a number of other Drug Stores in various locations. If you contemplate buying or selling, write me.

W. E. DONSON,
Rooms 1 & 2 Kuhn's Bldg, Dayton, Ohio.

Hold-Fast Paste,

For Tin, Iron and Glazed Ware,
WARRANTED TO HOLD FAST.
Wm. FERRY, Sole Manufacturer,
1025 Poplar St., Phila., Pa.
Correspondence Solicited.

To Paint and Drug Salesmen.

A good man can add to his income by representing an article (on liberal commission), that is of the greatest use to every dealer in the U. S. Address with full particulars as to Firm represented and Territory covered,

"T. W.," care of this paper.

COACH AND CAR COLORS
OIL COLORS
ARTISTS' MATERIALS
PAINTERS' SUPPLIES
OF EVERY DESCRIPTION
BAY STATE PAINTS
HOUSE ROOF BARN AND FLOOR PAINTS
MANUFACTURED BY
WADSWORTH HOWLAND & CO.
82 & 84 WASHINGTON ST. BOSTON.
263 & 265 WABASH AVE. CHICAGO.

PAINT MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 50.

TUESDAY EVENING, Dec. 24, 1889.

White Lead, Zinc, Etc.

Pig lead has remained firm during the week. There was an active demand for several days following our last, though later trade has been rather slow. Consumers have had some wants to supply and up to Friday bought about 800 tons paying 2 90c and in that neighborhood. Since then, however, the market has been rather quiet but the firm tone is maintained. The western markets also heve ruled firm but there has not been much demand. Messrs. Everett & Post write us from Chicago on the 21st inst: "This market has ruled quiet during the week at 3 65@3 70c, but consumers have been apathetic, and being supplied with "spot" lead, refuse to anticipate their requirements. The market closes at 3 67½c asked, the last sale reported being at that figure. At St. Louis a slightly firmer tendency is noticed but sales have not been large. At the close 3 65c is asked and 3 62½c bid."

White lead has sold to a moderate extent during the week, consumers supplying only absolute requirements. The anticipated charge in the schedule of rebates has not yet been made, and will not be announced, in all probability, until about January 1st. In the meantime prices remain 7¼c net for lots of less than 500 lbs, and 7c for lots of 500 lbs and over, less a rebate of ¼c per lb, 60 days' time, or a discount of 2½ per cent will be allowed for cash in fifteen days from date of invoice. To buyers of a total of ten tons of pure lead during the year, counting all brands, an extra rebate of ¼c per lb will be paid, payable July 1st and December 31st, provided deliveries have been made of such quantity prior to each of those dates.

French zincs have ruled steady but without feature and values are unchanged. American oxide of zinc has been held with steadiness and is reported in moderate jobbing demand.

Dry Colors.

REDS.

The market has been bare of interesting features during the week under review buyers having simply supplied their pressing needs, as is customary at this season. English venetian reds have found a moderate outlet at former prices, while the domestic article has been in similar request at previously quoted rates.

Orange mineral is quoted rather scarce and high, supplies having come forward with their accustomed slowness. The domestic grades have been in moderate demand, no alterations in prices being noted.

Cobalt Oxide—There has been no effort toward consummating contracts for next year, but the coming week will probably witness some effort in that direction. As previously stated, dealers assert that in all probability the price will be identical with that ruling last year.

Red lead and litharge have been taken to a moderate extent, the market being bare of items of interest at the moment. Prices are upheld at the stipulated rates.

Quicksilver vermilion has ruled without feature, values being steady and the call for stocks moderate.

Carmine has met with a moderate sale in a jobbing way at previously quoted prices, which are held with steadiness.

BLUES.

Blue pigments have been called for in the ordinary way, and the demand has been much the same as in previous seasons. Values are quoted steady and are unchanged.

GREENS.

The demand for green pigments has been equal to the ordinary requirements at this time, and in common with the balance of the market, the business doing has been of small dimensions. The new year will undoubtedly witness a change of base on the part of the association of makers, of Paris, as competition will have to be met from another source and these new parties are already making a bid for the business which has gone to the associated makers. The new year will undoubtedly bean inter sting one in this market and low prices will without doubt prevail.

Miscellaneous.

Sulphate of barytes—There has been a very good jobbing demand, and dealers report sales as satisfactory for the season. The inferior grades are very scarce, and No. 1 is selling at full prices in a jobbing way.

Chalk—There is nothing of fresh interest reported. Brokers continue to assert that they could get $2 for sailer chalk on spot if supplies were available. No vessels have been chartered as far as can be learned.

China clay—The superior qualities are in steady demand, and sales might be considered quite up to the average. The stocks at the moment are limited, but as there is quite a supply at sea, which will probably be available in the near future, this absence will be only temporary.

Talc—The spot supply of the imported grades is very limited and there is a fair business being done. The American qualities are apparently in full supply, with prices maintained, owing to the confidence of holders as to the future.

Terra alba—The market is in the same unfatisfactory condition that has been recorded during the past fortnight. What is selling as No. 1 realizes full prices. There is a quantity of best quality French, which is expected about January 10. Consumers are supplying their wants on spot as they occur, at ruling prices.

Whiting has sold in a moderate jobbing way at previous figures. We are unable to report any features.

Glues.

As is customary at this season, buyers have taken enough to simply carry them through the year. Values have ruled steady, however, and there are no evidences that holders are weak, or desirous of pressing their product on the market.

Glass.

WINDOW GLASS.

There have been no new developments in the market for American window glass since the date of last writing. Trade keeps up remarkably well for the time of year and manufacturers are allowed no opportunity to catch up with their orders. The market remains firm at our quotations. French window glass is very firm with an upward tendency owing to an advancing market on the other side Higher prices are expected after the turn of the year. The present discount is 75 and 5%. A committee of the glass workers will go to Washington on December 31, to assist in the revision of the tariff on window glass. "It seems assured," says Mr. James Campbell after a talk with Congressman McKinley, "that the duties on this article will be increased. In the words of Major McKinley the revision will be put upon a basis which will suit all industries."

PLATE GLASS.

A very good demand is still reported for plate glass, trade being, in fact, unusually active for this time of the year. The market is firm and prices are unchanged at 50 and 10% on sizes under 10 feet and 60 and 5% on smaller sizes.

Improvement in Lead Manufacture.

A patent has been granted in England to C H. T. Havemann of Paris, France, for improvements in the manufacture of lead from its ores and compounds. The patent is based on the fact that lead sulphide is reduced to the metallic state by fusion with caustic soda or sodium carbonate. The former is preferable because a portion of the sulphur is said to be expelled as H_2S instead of forming sodium sulphide, and thus less alkali is required; moreover, the use of sodium carbonate causes the formation of a "double compound of lead and sodium" unless about 10 per cent. of iron be added.

The process is carried out by fusing the lead ore (e.g., galena) with about 25 per cent. of caustic soda and running off the lead and slag in the ordinary way; the latter is then regenerated by treatment with water and carbonic anhydride or sodium carbonate, thereby form

C. H. HOWELL & CO.,
Color Makers
99 Malden Lane New York.
214 & 216 Race St., Philadelphia.

THE JEWETT WHITE LEAD CO.,
28 Burling Slip, NEW YORK.
JEWETT & SONS PERFECTLY PURE WHITE LEAD TRADE MARK

LINSEED OIL & J. A. DEAN & CO. PERFECTLY PURE LINSEED OIL LINSEED CAKE
181 FRONT STREET, NEW YORK.

The Beymer-Bauman Lead Co.,
CORRODERS AND MANUFACTURERS OF
WHITE LEAD.
ESTABLISHED 1867 DRY AND IN OIL.
BEYMER, BAUMAN & CO. STRICTLY PURE WHITE LEAD PITTSBURGH.
Red Lead, Litharge & Orange Mineral
Of superior quality, made with Natural Gas fuel rendering them absolutely free from Sulphur.
Office, Hamilton Building, 91 Fifth Avenue,
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INCORPORATED 1887. Boston Branch, DEXTER BROS., 57 Broad St.

JOHN T. LEWIS & BROS. CO.,
SUCCESSORS TO
Mordecai Lewis,
Established 1772.
We are prepared to supply the Trade promptly, with our long established and reliable brand of
Pure White Lead IN OIL,
unsurpassed for whiteness, fineness and body.
JOHN T. LEWIS & BROS. WARRANTED PURE WHITE LEAD. PHILADA.
TRADE MARK.
ALSO
Painters' Colors
Orange Mineral,
Red Lead.
and Litharge,
Oxides
FOR
Varnish Makers and others
Requiring Pure Goods
A SPECIALTY.
LINSEED OIL,
Raw, Boiled and Refined

Anchor White Lead Co.,
ANCHOR WHITE LEAD WORKS. GOSHORN BROS. PURE CINCINNATI, O.
Established 1828.
CINCINNATI, O.
Pure White Lead,
RED LEAD, LITHARGE.
Agents for New England, E. & F. KING & CO., BOSTON.

THE
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174 Front Street,
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BROOKLYN WHITE LEAD CO.
ESTABLISHED 1825.
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GOLDEN OCHRE, PARIS WHITE,
PATENT DRYER, TUSCAN RED, INDIAN RED,
VENETIAN RED AND COLORS.
Lee Smith & Co
59 Frankfort St., & 19, 21 & 23 Jacob St., N. Y.
AGENTS FOR
Henry Grace & Co.,
LONDON.
MANUFACTURERS OF
WHITE LEAD, ETC.
PAINTS FOR GRINDERS' USE.
IMPORTERS OF
English White Lead, Ochres, Umbers, Siennas,
Indian and Venetian Reds, and China Clay, V. M.,
French Zinc, Refined Yellow Beeswax.
We claim to have our Paints for Grinders of the Best Quality and Most Finely Prepared.

COLOR
PURITY
WEIGHT
FINENESS
SOFTNESS
UNIFORMITY
SMOOTHNESS
MIXING-CAPACITY

Our processes are different from any other, our own invention, and improved annually.

SOLE MAKERS OF FLOATED LEAD BLOOM.

Famous for A QUARTER OF A CENTURY as the

Best on the Market.

The ONLY BARYTES really ECONOMICAL or SAFE

IN PAINTS AND COLORS.

Our *OXIDE OF ZINC* has *MORE BODY* than any other.

For proofs of above apply to Page & Krausse M'f'g & Mining Co.,
ST. LOUIS, MO.

The Largest Works in the World.

Established 1849.

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226 Walnut St., Philadelphia, Pa., U. S. A.

2nd Floor Front.

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LAMP BLACK

OF ALL GRADES,

AND

Patent Hydro-Carbon Gas Black.

SILVER MEDALS awarded by the Franklin Institute, 1852; Massachusetts Charitable Mechanics Association, Boston, 1860; American Institute, New York, 1867; and Franklin Institute, November, 1874; also Diploma and Medal by International Exhibition, Philadelphia, 1876.

Beware of Fraudulent Imitations. **All our Brands are Registered.**

Sole Agents and Correspondents for

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NATIONAL LINSEED OIL COMPANY

Selling and Purchasing Agents for

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PURE LINSEED OIL,

Raw, Boiled and Refined always on hand. Delivered in BARRELS or TANK CARS. OIL CAKE for Export and Domestic Use.

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Office, 185 Dearborn Street, CHICAGO, ILL.

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CHARLES MOSER & CO.,

59-63 Main St., CINCINNATI, O. **75 Maiden Lane, NEW YORK.**

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DRY, IN OIL AND JAPAN AND PULP.

ARTISTS' OIL COLORS

IN PATENT COLLAPSABLE TUBES.

White Lead and Zinc White

THE CELEBRATED

"Economy" Ready Mixed Paints,

QUICK DRYING CARRIAGE PAINTS

ETC., ETC.

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TO ARRIVE IN NEW YORK, BALTIMORE AND NEW ORLEANS.

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CARBON GAS BLACK

MADE UNDER LETTERS PAT. OF SEPT. 1872, MAR. 1875, MAY, 1881.

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WM. KNAPPMANN & CO.,

Manufacturers of all Grades of

Whiting.

SPECIALTIES:

American Paris White and Prepared Chalk

E. P. EARLE, Sole Agent, 71 Maiden Lane, New York.

ADAMANTA

-V-A-R-N-I-S-H-

Strictly Neutral---Melting Point about 400°---For Durable and Brilliant VARNISHES, JAPANS, Etc.

Hardened and Acid-free RESINS. RUBBER Substitute.

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For Sale by ADAMANTA MANF'G CO., 17 MASON BUILDING, BOSTON, MASS.

Established 1856.

GLUE

Manufactories of GLUE & GELATINE of every description,

FOR ALL TECHNICAL PURPOSES.

Rich, Strong and Pure. Specialty: GROUND GLUE.

PHILIPP SCHNELL, - - - KASSEL, GERMANY.

PAPER, GLUE, and GELATINE Works in HAN MUNDEN; Branch in Paris.

1888, Melbourne and Barcelona, 2 Gold and 2 Silver Medals. Awards: 1862 London, 1867 Paris.

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COLORS FOR GRINDERS AND MANUFACTURERS.

LOW PRICES. **BEST QUALITY.**

JOHN LUCAS & CO.,

Philadelphia: 141 & 142 N. 4th St. 322 to 330 Race St.

WM. E. LUCAS, 89 Maiden Lane, New York.

ing normal sodium carbonate and sulphuretted hydrogen; the liquor is then causticised and run directly on to a fresh charge of ore.

It is claimed that a quantity of lead equal to the assay value of the ore (e.i., about 6 per cent. more than is got by the methods at present used) is obtained.

The Petroleum Supply.

In this skeptical age, credulous though it be in some respects, it is not surprising that there are some people who begin to have doubts of the stability of the foundation for the bullish statistics given to show why petroleum ought to be worth $2 a barrel. The public shows its skepticism by keeping out of the market, and a dollar and a few cents' price seems to be a potent stimulus to production. Most people who have given the subject any considerable attention will agree with Mr. T. H. Adams that never before in the history of the business was there so much field work as at the present time. It is true there may be as much money expended boring as will be gotten out of the ground, but that fact is not deterrent, and some of these days no one need be astonished either at finding at the end of another year the surplus very little reduced or the opening of some vast reservoir like that of Thorn creek, or another field as productive as the Bradford.

The wildcatter is at work everywhere where there is the faintest scent of oil, and someone is almost certain to strike it rich some of these days. Then, too, it seems not only almost certain that chemists will yet succeed in refining Lima oil so as not only to make it more profitable, but it is believed that it is largely used now as a mixture.

But the surplus will likely be largely maintained whether a new field be struck or not. More than one five-barrel well pumped with an engine operating, is profitable at $1 a barrel, and old wells are being cleaned out daily and revived, some of them after 20 years' abandonment, and these small wells go far toward furnishing the aggregate run.

IN THE OLD OIL COUNTRY.

The territory considered exhausted in the upper oil country is beginning to show general signs of life. In the vicinity of Oil City and Franklin, wells are being bored as a matter of straight business, devoid of speculation. They are small but lasting, and whereas they once cost $3 to $4 a foot for boring, they are now drilled at 45 cents a foot, all depths within 700 feet. Counting the cost of a derrick and engine house at $400, a well 700 feet deep can be gotten at a cost of $715. A five barrel well is regarded as a certainty, and it may be a 50-barrel one. Even a five-barrel well will pay to operate at this cost, and where several can be pumped with one engine the return is correspondingly greater. In that section one 30-horse-power engine is reported pumping 60 wells. They are connected with rods which are connected with elbows and operated in divers other ingenious ways. How much more development would likely ensue were oil to sell at $2 a barrel can only be conjecture, but some people think all the old Oil creek, Pithole creek, Dennis' run, Tionesta, Clarion county, Bradford, and in fact all the old fields will soon be worked for all they are worth, if present price is maintained.

OTHER DEVELOPMENTS.

In every direction the drill is being pushed, the local field at present making the most noise. It is said that Washington wells are likely to be drilled deeper and another sand exhausted. On Montour run there is considerable activity, and another strike or two will fill that section with derricks. The Neir farm, near Robb station, has been leased, and the owner will allow but one well to be drilled at present, though he gets one-fourth royalty should the output be large; one-eighth if small.

The finest piece of nearly primitive forrest scenery in the country, that in the neighborhood of the Forrest Grove Presbyterian Church, is being spoiled at present. The parsonage ground will be drilled, and a possible sustentation fund secured. The section looks already so scarred and blasted that one might imagine Jove had been rolling ten-pins through it, or throwing thunder-bolts around promiscuously. Croquet playing, which takes the place of billiards among the Presbyterian brethern, would not in a million years create the havoc that a few oil drillers have done in a few days. In a short time nothing will be left the student of nature in that section except the study of geology. The wild brooks that tumble i a series of cascades a depth of 400 feet in the course of two miles allow a study of the earth's epedermis, away below the post-pleistocene.

There are some people who deplore the loss of our forests, but the majority of them will sacrifice them for filthy lucre, and on the south side of the Ohio there is but little of that aversion manifested so strongly in Sewickly, to the encroachments of the greasy drillers. One man who owns a splendid place in Crafton, says they may bore in his terrace if they guarantee him a flower and he will move and take a fresh start, and he isn't a very young man either.—Pittsburg *Dispatch*.

TRADE P. & B. MARK REGISTERED

The STANDARD PAINT Co.

Sole Manufacturers of the Celebrated

P. & B. ACID proof Paints and Compounds

A perfect preservative for

IRON, WOOD & BRICK.

Resists the strongest

Acids and Alkalies.

Thoroughly WATER and DAMP proof.

—ALSO—

P. & B. Water, Acid and Alkali proof wrapping, Lining and Sheathing Papers.

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ESTABLISHED 1858

Trade PRINCE'S 72 lbs. Metal in the 100 lbs WARRANTED FIRE PROOF lbs. N.Y. METALLIC PAINT. Mark

The Prince M'f'g. Co.,

Sole Manufacturers.

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(Sons of the late ROBERT PRINCE, Original Manufacturer.)

PRINCE'S Metallic Paint,

An Indestructible Coating for TIN, IRON and WOOD.

BUT ONE COLOR MADE.

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Warranted Unequalled in Body, Strength and Fineness.

70 Per Cent. Iron and Free From Sulphur.

Grinds smoothly with 18 lbs. oil to 100 lbs. oxide.

CLINTON RED HEMATITE,

For coloring Mortar, Brick, Tile, etc., equal to Turkey and Florentine Red.

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Agents for Mortar Color in Boston:
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Catalogue on Application.

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"Nantahela" Talc.

Quotations and Samples on Application.

MARYLAND WHITE LEAD CO. WARRANTED PURE WHITE LEAD BALT'O. CO. TRADE MARK

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Dry White Lead and White Lead in Oil

We guarantee all our manufactures to be perfectly pure.

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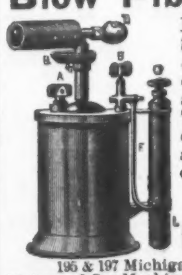

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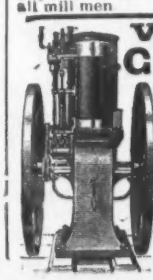

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DURABLE, RELIABLE, SAFE and ECONOMICAL.

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Van Duzen Gas Engine CO.,

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Established 1807.

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"English" or "California" **Quicksilver Vermilion.**

Pure No. 40 Carmine,

Soluble Blue, Paints and Colors,

Drv, in Oil, and in distemper,

Colors for Paint Grinders a Specialty.

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WHITE LEAD,
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Preventing disease and prolonging life.

Adapted for use in White Lead Works, Glass & Blast Furnaces, Chemical, Paint & Color Works, Snuff Factories, Smelting & Refining Works, PaperMills, Furniture Factories, Iron Works, etc., etc.

Air is inhaled through a wet sponge and exhaled through an automatic valve.

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Standard Mixed Paints.

An old time reliable article, surpassed by none, is first-class in every respect.

They contain no water or Benzine.
They are Free from Chemicals.
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They have great Body and Weight.
Their color is rich. They are soft, pliable and elastic.
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They fully withstand the agency of the elements.
Their uniformity of color and quality is notable.

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Genuine French Orange Mineral.

TOURS' BRAND.

Is the Finest, most Brilliant and Lasting in the World for Vermilion Manufacturers, &c.

SOLE AGENT FOR THE UNITED STATES,

F. A. REICHARD, 15 Platt St., N. Y.

price of $23 per ton, but this figure don't seem to be an inducement to foreign buyers. The market is still quoted at that, but mostly in a nominal way. The comparatively low prices and light trade are attributed to the unseasonable weather abroad.

Wax, Lard, Tallow, Etc.

An advance of ¼c has been made in refined paraffine wax during the week, on account of the firm position of the crude materials. For 130 melting point 7¾@8c is generally asked, and 8½@9c for 135 melting point. These are manufacturers' prices, as jobbers quote a higher rate. Crude remains on a steady basis at 4¼@4½c for 124@126 melting point.

[illegible] market has an easier look. Western [illegible] spot is held at 6 20c, city steam at [illegible] refined at 6 20@7 05c. Another brand of [illegible] will soon be on the market, but the [illegible] expected to be limited.

There is [illegible] to be noted in lard stearine, which is [illegible] at 6¾c for western on spot, and 6¾c for city, without buyers. Oleo stearine has a slow demand at 5¾c bid.

Tallow is wanted in a small way at 4½c for prime city, but holders are asking 4⅝c, and the result is no business.

Naval Stores.

Spirits Turpentine.—Additional receipts and the apathy of buyers have had their effect upon the market, and there has been a continuation of the dull and easy feeling reported in our previous issue. The stock available has been a good one and prices show a further decline of ½c. The market closed dull to-day at 43¾@44c.

Rosins.—The week has been a very fair one in the matter of trading and the fresh arrivals have found a ready outlet at previous prices. A feeling of steadiness has prevailed throughout the interval and the market closed to day with that feeling predominant and prices quoted as follows:

Strained $1 20; good strained, $1 25; E, $1 35 F, $1 45; G, $1 50; H, $1 60; I, $1 90; K, $2 00 M, $2 40@2 50; N, $2 90@3 00; W G, $3 25; W W, $3 50@3 60.

STOCK ON HAND AT

	Spirits.	Rosin.	Tar.
New York, Dec. 23...Bbls.	3,374	14,288	1,154
Savannah, Dec. 20.....	11,693	63,742	
Wilmington, Dec. 21. ...	6,564	44,324	6,252
Charleston, Dec. 20.....	3,545	18,115	....

The following is from the Savannah *News* of December 22.

NAVAL STORES STATEMENT.

	Spirits.	Rosin.
Stock on hand April 1	1,947	73,092
Received to-day	506	2,206
Received previously.....	167,219	463,609
Total	169,672	538,907
Exported to-day...	110	1,390
Exported previously...	157,473	472,959
Total.....	157,583	474,349
Stock on hand and on shipboard to-day	12,089	64,558
Receipts same day last year....	163	2,266

Messrs. Watt & Son, London, under date of Dec. 7, say:

	1889.	1888.	1887.	1886.
Stock Dec. 7...	12,976	15,885	16,406	24,537
Delivered this week....	1,716	1,517	1,002	815
Since Jan. 1....	57,876	60,828	65,554	67,436
Price Dec. 7....	34s 0d	34s 6d	37s 9d	28s 6d
Jan-April.....	34s 3d	35s 3d	28s 9d	26s 9d

Cottonseed Meal for Cattle.

A professor connected with the Texas University says: It is desired to call attention to some of the practical as well as scientific features connected with the hulls and meal as a stock food. The practice is not a new one, except in the sense that the whole cottonseed oil industry is recent, and hence none of its outgrowths can have long been established. Probably the first attempts at systematical feeding an exclusive ration of hulls and meal on a large scale have been made within four or five years. These cases have been local, confined to the vicinities of the oil manufacturing centers like New Orleans, Memphis, Houston, Little Rock, Raleigh and Atlanta, and hence have not attracted general attention.

Up to the present time nothing like an economical utilization of cottonseed hulls has been attempted, the common practice having been to burn them under the mill boilers as a cheap means of disposal, and even the valuable ashes thus produced have been largely exported to other parts of the country. As an absorbent for bedding stock they are found to undergo rapid decay, giving off perceptible quantities of ammonia, and hence are not regarded with favor by those who have tried them in this way.

The process of separating the kernels of cottonseed from the hulls, in the oil mills, consists essentially in crushing and cutting the seeds and dividing the two portions by a system of screens and shakers. At first sight it would seem to be a physical impossibility for an animal to consume any appreciable quantity of the hulls thus produced. They consist of fragments of seed coats one six-tenth to one-fourth inch in diameter, of dark brown color, very tough and leathery and entangled in a mass of cotton fibers, which still adhere to the outside of the hulls and which the ginning process fails to entirely remove. It is apparently the most dry and tasteless form of food which could be found. It is a matter of difficulty to reduce it to anything like a suitable form for analysis. In the mortar it forms an elastic felt, while it is scarcely amenable to any grinding process. Taken into the mouth it is harsh and dry. Mastication promotes an abundant secretion of saliva, as would be only natural with any similar material. It has very little taste, and that apparently due to the small particles of the kernels remaining with the hulls. A together they possess apparently few inviting features as a food. In spite of this it is said that animals which have never seen the hulls or meals before soon acquire an eager appetite for them, and after a few days prefer such a diet to one composed of hay and corn. Probably this is due to the meal rather than the hulls, which as already noted, are well nigh tasteless.

From the large a mount of fiber on the hulls the danger of boiling up or producing stoppages of the bowels might be anticipated. But we have been unable to learn of a single such case, nor is there even a tendency to constipation. On the contrary, the effect upon the bowels is loosening, which, with an excess of meal, may develop into "scouring." This is the well known result of excessive feeding of cottonseed meal in connection with other materials. The hulls and meal seem particularly adapted, therefore, to being fed together, the effects of each counteracting the other.

Oleomargarine in Connecticut.

At a meeting of the Connecticut State Board of Agriculture the anti-oleomargarine resolution offered previously was called up from the table and a strong effort made to have it passed. The resolution provided that every farmer should refuse to vote for a candidate for the Legislature or for Governor who would not pledge himself to support a bill to prohibit the coloring of oleomargarine like butter, or a bill compelling oleomargarine to take a distinct hue. The sentiment of individual farmers in the convention was obviously in favor of the resolution, but ex-Lieutenant-Governor Hyde, who presided, pointed out that the Board was a State institution and could not properly commit itself to political action. After a heated discussion it was finally decided that action on the matter should be definitely postponed.

Spinifex Rosin.

Mr. J. H. Maiden has reported to the Linnean Society of New South Wales the result of his examination of this resin, obtained in North-West Australia last year. It is in flat cakes about 3 inches in diameter says the *Chemist and Druggist* has a dirty bronze-green appearance; and a persistent disagreeable odor, not easily described. It consists of vegetable debris (which may prove to belong to a grass) cemented with a yellowish-brown resin, and containing about 3 per cent. of fat. It is employed by the natives as a cement for spearheads, &c.; and the consistent testimony of the natives, as well as of the Europeans, is that it is obtained from the roots of spinifex grass (Triodia irritans, R. Br.). The extraction of resin from a grass has never previously been recorded.

Alcoholic Perfumery.

The Treasury Department is in receipt of a letter from the United States attorney for the southern district of New York, in which he reports the trial in the United States Circuit Court of his district, before Judge Lacombe and a jury, of the suit of Herman Fritzsche et al vs. Daniel Magone, late collector, etc., which resulted in a verdict for the plaintiffs in the sum of $155.79.

It appears that the plaintiffs in January and April, 1888, made two importations at New York of floral extracts, jasmine and rose, which were classified by the collector as "Alcoholic perfumery," under the provisions of Schedule A, T. I., 100, at a duty of $2 per gallon and 50 per cent. ad valorem, whereupon the plaintiffs duly protested and appealed, claiming that the merchandise was not embraced in the term "Alcoholic perfumery," nor commercially known as such, but was dutiable at the rate of $2 per gallon for the alcohol contained therein and 25 per cent. ad valorem under the provision in Schedule A. T. I., 103, for "Alcoholic compounds not otherwise specially enumerated or provided for."

The United States Attorney reports that the evidence adduced on the trial showed that these floral extracts were colored liquids, the jasmine being of a wine color and the rose of an olive green color, composed of about 95 per cent of alcohol and 5 per cent of sediment; that they were somewhat oily to the touch; were of a heavy fragrant odor, and that when applied to handkerchiefs, &c., left an oily stain upon them.

He further states that the testimony on behalf of the plaintiffs, showed that prior to and at the time of the passage of the act of March 3, 1883, t e term "perfumery" meant in trade and commerce of this country finished products manufactured from various raw materials, differently combined and made ready for consumption as perfumery; that in the manufacture of such finished products the raw materials used have to be reduced in strength and rendered volatile, so that their heavy smell as it is called in trade, is made to disappear that their different odors have to be produced in such a way as to imitate nature, and that the natural coloring matter in the raw materials must be so treated, and the oil in them removed so that the finished products will not stain the handkerchief or other article to which they may be applied; that these floral extracts were not prior to or at the time of the time of the passage of the act of March 3, 1883, and are not now known in trade and commerce of this country as "perfumery," but that they are now, and always have been, in such trade and commerce, regarded as, and used as, one of the materials employed in the manufacture of perfumery.

Notwithstanding some testimony was produced on the part of the defendant to show that the articles were known in trade as "crude perfumery," the question was, as above stated, determined in favor of the plaintiffs, the court having so charged as to leave it to the jury to determine whether the word "perfumery" expressed a finished product ready for the consumer, or whether it covers all substances like those in question which may be converted into perfumery perhaps by but little additional manufacture.

The United States Attorney General, to whom the matter was submitted, advises, under date of the 9th instant, that as the question in dispute is one of fact, which was fairly submitted by the court to the jury, there is no ground upon which the case could be successfully prosecuted in the United States Supreme Court, and certifies, under the act of March 3, 1875, that no appeal or writ of error will b taken by the United States in the suit.

It would seem from a careful consideration of the evidence adduced that no different result could be expected from a further litigation of the suit. The Department therefore acquiesces in the judgment, and instructs upon due entry of judgment to take steps for its settlement by forwarding the usual certified statement for the consideration of the Department.

This decision may also be applied to any suits now pending covering the same class of merchandise and to future importations of such merchandise, provided, with regard to the suits, that the requirements of law as to protest, appeal, institution of suit, etc., have been duly complied with. Department's ruling of March 21, 1888, is modified accordingly.

Canada Petroleum Report.

Crude values have shown the past week, strength of an unusual character, and have all the appearance of having come to stay. The course of the market up to last week had been somewhat erratic, though the general tendency continued to be toward a higher range. The variations in prices were, for the most part, due to buying influences, and these have shown the market to be very susceptible to any buying movements, while persistent selling of small holdings continued to depress prices.

However, the situation continues to gain in strength. If oil has been ever cheap, it has been cheap for the last few months, and the wonder is that capitalists looking for safe speculative securities, have not long since taken all the certificates obtainable. The situation as far as the producing field is concerned, shows very little change. Several wells are being drilled in various parts of the territory, but they are all small. It seems to us now that an important advance movement at any moment would not cause a surprise, and this, it is believed, cannot long be deferred even by the most energetic bear tactics. The bears, however, are not the bold and confident operators they were some time ago, and we are of the opinion little need be feared from that source. Refined continues very firm with a brisk demand and good business doing at the present prices—13½, car lots, for prime, and 16½ for water white oils.—*Petrolea Topic, Dec. 20.*

Recent Patent.

417,362. ARTIFICIAL FUEL. Issued Dec. 17, 1889.

Claim.—The described improved artificial fuel formed by mixing and combining silicate of soda, nitrate of potassa, water, charcoal, carbonate of lime, and binoxide manganese, in about the proportions mentioned, and then compressing the composition into blocks, substantially as set forth.

Cottonseed Oil, Cake, & Meal!

Valley Oil Mills.

Manufacturers and Refiners of Cottonseed Products.

MEMPHIS, TENN.

N. B.—Samples and Prices on Application.

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OIL PRESS MAT
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OIL TANK WAGONS

Estimates on any size furnished on application.
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MANUFACTURERS OF
OIL PRESS CLOTH
FROM WOOL AND CAMEL HAIR.
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Cleveland Petrolatum Company,
MANUFACTURERS OF
Petrolatum and Lubricating Oils, HIGHEST GRADE OF Machinery and Cylinder Oils,
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BALTIMORE, MD.
Spirits Turpentine and Rosin.
LINSEED OIL.

The Plume & Atwood Manuf'g Co.
MANUFACTURERS OF
KEROSENE BURNERS,
LAMP TRIMMING, LAMPS, LANTERNS, &c.
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MICA AXLE GREASE.

THE CINCINNATI TRANSFER CO.,
Cincinnati, Ohio.

Mica Axle Grease is very satisfactory in every respect. Quite superior to any axle grease we have ever used before.
W. J. Winterbottom, Supt.

We endorse the above.
Griffith & Hill, Lumber Dealers.
Jas. Griffith & Sons, Planing Mill.

Springfield, Vt.

I have a large sale of Mica Axle Grease. It wears three times as long as any I ever used. Minor W. Newton.

Eldorado, Wis.

We have sold Mica Axle Grease for five years. It is the best Grease manufactured. C. H. & Buell Anderson.

Detroit, Mich.

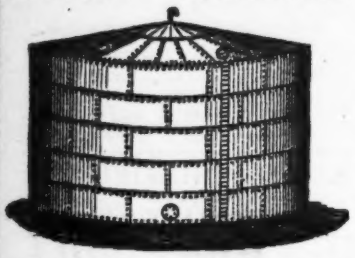
I have used Mica Axle Grease for about eight years with the very best satisfaction. It doesn't run off the axle in hot weather; and it doesn't chill and harden in cold weather. I have used almost all other makes of axle grease and consider the Mica worth more than twice as much as any other for my use.
J. C. Carpenter, dealer in coal and wood.

Manufactured by the

STANDARD OIL COMPANY,

Cleveland, Ohio.

Wm. Graver Tank Works,



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THE AMERICAN COTTON OIL CO.,

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Cincinnati, Ohio.

Manufacturers of all Grades of

Cotton Oil.

Crude Cotton Oil,
Summer Yellow Cotton Oil,
Summer White Cotton Oil,
Winter-Strained Cotton Oil,
White Cottonseed Stearine,
Yellow Cottonseed Stearine,
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Winter Miners' Oil and Bewers' Lamp Oil (White and Yellow,) Especially prepared for burning purposes and guaranteed to remain bright and limpid at 32 deg, Fahr.

Empire Salad Oil. A strictly Winter-Strained Oil, especially prepared for Druggists' and Culinary purposes, guaranteed to remain bright and limpid at 32 deg. Fahr.

A. C. O. Co., J. V. L. & Co. and I X L Cooking Oils, purely vegetable Recommended to and extensively used by bakers, hotels and private families.

Owing to our close connection with the manufacturers of the crude oil and our superior facilities, we are in a position to defy competition and to furnish our products at lower prices than can be made by other refiners.

QUOTATION FURNISHED UPON APPLICATION.

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COTTON OIL DEPARTMENT.

OFFER FOR SALE ALL GRADES OF

Crude, Summer Yellow, Summer White, Winter White, and Winter Yellow Cottonseed Oil. Soapstock.

Exports of Petroleum from New York

REFINED.

COUNTRIES.	Week Ending Dec. 23. Gals.	Jan. 1 to Dec. 16, 1889. Gals.	Jan. 1 to Dec. 17, 1888. Gals.
Africa, Liberia	.....	18,310	25,653
Sierre Leone	.....	10,000	50
South Africa	43,220	2,198,225	1,326,815
Zanzibar	.....	541,120	657,500
Algiers	.....	1,450,540	1,434,330
Arabia	.....	460,000	190,000
Argentine Republic	7,000	4,830,650	4,362,235
Australia	184,320	8,548,511	8,158,841
Austria	.....	.....	138,033
Belgium	2,812,000	28,163,377	34,098,348
Brazil	223,800	9,725,504	81,078,818
British East Indies, Aden	.....	383,840	545,000
Burmah	.....	4,872,030	231,851
India	.....	8,618,751	21,014,300
Penang	175,000	2,736,875	630,000
Singapore	175,000	2,655,295	1,727,552
British Guiana	15,500	472,375	413,035
British West Indies, Antigua	.....	41,816	42,040
Barbadoes	2,680	378,175	296,706
Basse Terre	5,000	70,370	41,870
Bermuda	.....	87,696	119,416
Domenica	400	22,355	9,930
Jamaica	22,986	555,824	564,174
Montserrat	.....	8,233	5,200
Nassau	4,119	60,695	60,347
St. Lucia	855	22,798	29,277
St. Vincent	.....	42,700	106,050
Trinidad	.....	216,185	251,910
All others	780	149,986	110,050
Canary Islands	.....	424,432	122,350
Central America, Belize	.....	98,593	69,495
Costa Rica	.....	26,148	72,115
Guatamala	.....	91,178	54,915
Honduras	.....	87,575	80,222
Nicaraugua	500	194,438	136,050
San Salvador	500	51,489	41,950
Chili	.....	2,543,546	2,623,000
China, Cochin	1,470,290	26,602,810	2,873,750
All other	.....	.....	3,295,389
Cuba	4,500	927,557	556,937
Danish West Indies	.....	98,487	45,559
Denmark	.....	3,605,619	3,444,458
Dutch East Indies, Java	.....	22,483,870	14,134,270
Macassar	.....	528,250	78,140
Sumatra	.....	520,000	562,450
Dutch West Indies	1,734	106,892	104,167
Dutch Guiana	.....	89,703	109,581
Ecuador	3,000	117,500	96,290
England	547,042	47,179,018	44,890,010
Egypt	.....	2,676,320	498,150
France	220,198	8,736,458	1,778,021
French Guiana	.....	21,000	34,650
French West Indies	16,500	2,690,866	353,377
Germany	1,169,292	58,282,882	91,693,847
Gibraltar	.....	1,163,180	562,700
Greece	.....	.....	.....
Hawaiian islands	.....	50,000	100,000
Hayti	15,082	599,007	598,156
Ireland	.....	5,264,645	4,272,080
Italy	.....	5,883,218	872,697
Japan	690,000	15,285,690	.....
Madeira Islands	.....	5,000	10,944,960
Malta	.....	.....	1,479,943
Mauritius Island	.....	.....	120,880
Mexico	.....	397,215	14,750
Moluoca Islands	.....	102,730	.....
Netherlands	984,360	82,145,265	24,920,787
New Zealand	.....	758,194	.....
North America, New Brunswick	10,000	970,916	825,455
New Foundland	.....	110,026	277,744
Nova Scotia	4,550	538,718	510,219
Prince Ed. Island	.....	105,750	240,882
Norway and Sweden	.....	6,985,337	6,355,634
Peru	120	621,878	334,501
Porto Rico	2,000	702,460	595,347
Phillippine Islands	.....	1,895,000	916,250
Portugal	.....	762,539	710,648
Reunion	.....	177,000	74,500
Russia	.....	119,690	.....
Scotland	.....	300	145,820
Siam	.....	1,517,000	1,259,910
Spain	.....	509,970	456,314
Tasmania	.....	64,200	.....
Turkey	.....	.....	435,764
U. S. of Col	5,417	880,074	621,650
Uruguay	20,000	3,321,010	2,443,703
Venezuela	83,170	1,200,108	787,149
Wales	.....	1,075,659	845,316
Total	8,335,810	379,563,072	322,466,192

CRUDE.

COUNTRIES.	Week Ending Dec. 23 Gals.	Jan. 1 to Dec. 16, 1889. Gals.	Jan. 1 to Dec. 17, 1888. Gals.
Argentine Republic	.....	.....	52
Australia	.....	.....	.....
Austria	.....	674,572	.....
Belgium	.....	.....	.....
Brazil	.....	918	.....
British Guiana	.....	.....	.....
British North America	.....	.....	.....
British West Indies	.....	.....	.....
Canary Islands	.....	150,000	248
Chili	.....	.....	.....
China	.....	532,250	.....
Central America	.....	100	2,167
Cuba	.....	3,577,880	3,195,317
Danish West Indies	.....	1,095	.....
Dutch West Indies	.....	.....	.....
England	.....	2,085	.....
France	196,634	31,069,203	29,358,450
Germany	.....	3,934,166	1,220,503
Hawaiian Islands	.....	.....	.....
Gibraltar	.....	162,500	.....
Mexico	200,000	2,776,262	1,252,427
Norway and Sweden	.....	170,805	187,230
Spain	.....	6,024,068	7,716,275
Uruguay	.....	.....	.....
Venezuela	.....	605	.....
Total	996,634	56,265,156	44,275,617

NAPHTHA.

COUNTRIES.	Week Ending Dec. 23 Gals.	Jan. 1 to Dec. 16, 1889. Gals.	Jan. 1 to Dec. 17, 1888. Gals.
Africa	.....	.....	.....
Algiers	.....	.....	.....
Argentine Republic	.....	10,685	2,625
Australia	.....	238	48
Belgium	.....	1,546,289	868,244
Brazil	.....	11,636	14,630
British North America	.....	622	2,400
British West Indies	.....	12	202
Central America	.....	.....	.....
Chili	.....	.....	237
Cuba	.....	25,000	.....
Denmark	.....	.....	.....
England	.....	4,807,130	3,873,100
France	116,451	4,436,577	2,484,222
Germany	.....	1,650,652	881,431
Hayti	.....	.....	.....
Ireland	.....	71,629	7,659
Mexico	.....	11,415	1,200
Norway and Sweden	.....	753,382	399,573
Portugal	.....	2,185	79,700
Russia	.....	28,223	.....
Turkey	.....	.....	.....
Uruguay	.....	465	.....
Venezuela	.....	.....	.....
Total	116,451	12,101,140	8,130,571

The Duty on Alleged Gold Size.

The Treasury Department received a letter transmitting the appeal of an importing firm from a decision assessing duty, at the rate of 35 per cent. ad valorem, on certain so-called "porosin," imported by them into the port of New York, and thence transported to Chicago under the immediate-transportation entry and entered for consumption June 11, 1889. The appellants claim that said article is a gold size, and that it is therefore exempt from duty under T. I., 711.

The appraiser at Chicago states in his special report on this appeal that the merchandise in question is known and invoiced as "porosin"; that it is not similar to the gold-size of commerce either in appearance or use, inasmuch as the circular accompanying the preparation shows that it is used for priming canvas for oil or water-color painting.

A report obtained from the appraiser at New York shows that the so-called 'porosin" is not known to the trade as gold size, and bears no similitude thereto in material, quality, texture, or the use to which it may be applied, and that inasmuch as this preparation is not mention bo name in the tariff, it is held to be dutiable at the rate of 20 per cent ad valorem under the provision of section 2,513 of the Revised Statutes, as contained in the act of March 3, 1883.

In view of the Appraiser's report, and the statement made by the appellants themselves, that "porosin" is "used as a coating for oil colors," the department is of opinion that said article is neither directly nor by assimilation entitled to exemption from duty under the provision in the free list for gold-size, but was properly classified as an unenumerated manufactured article.

The decision is therefore affirmed.

The Cinnamon Trade of Ceylon.

The present condition of the cultivation of and trade in cinnamon is discussed in a recent issue of the *Ceylon Observer* of Colombo, In the days of the Dutch monopoly the Ceylon cinnamon, by far the finest in the world, first rate bark was sold at a pound sterling for a pound in weight, and as late as 1830 the average price of Ceylon cinnamon in the London market was as high as 8s per lb. But with the abolition of the monopoly and the consequent enormous increase in the export the price has fallen, so that the price last year was only 1s. 3d. per lb. In the monopoly days the average export from Ceylon rarely exceeded half a million pounds; but with the removal of restriction the exports rose to about three million pounds. This included not only the baled spice, but also "chips" previously worked up in the distillation of cinnamon oil. The large proportion of these chips introduced into the market at last reduced the splendid Ceylon cinnamon to the level of a competitor with the Chinese bark known as cassia lignea. A combination a few years ago to restrict the export of chips failed; but a new one is being formed for the purpose. Growers have been driven to take this step by the constantly falling price, which was recently down to 9d. Cinnamon bark is used to flavor chocolate and puddings; it is an ingredient in the incense used in some religious buildings, and is a constituent of some patent food for cattle. In medicine and confectionery the bark and essential oil are used to some extent, while it is combined with sulphur in a new mode of preserving meat. Except, perhaps, in this last direction, there is no prospect of increased consumption of the famous and once costly Ceylon spice. In some parts of Ceylon, especially in the well-known cinnamon groves near Colombo, the shrub is being cleared away to make room for the cocoanut. Besides pledging themselves not to trade in chips the leading planters agree also not to manufacture cinnamon leaf oil, in the interest of the fine aromatic oil distilled from cinnamon bark, chips being the residue. The two oils are wholly different in quality and taste, yet attempts have been made to adulterate the bark oil with that from the leaf. The latter somewhat resembles clove oil, and is employed to rub inside the covers of books as a preservation against fungi and insects. It would seem almost impofsible to adulterate the barkoil, with its peculiar and delicate flavor, with the leaf oil, for the coarse and pungent odour of the brittle leaves of the cinnamon tree as compared with the delicate aroma of the bark, and its oil is one of the peculiarities of the plant; yet when one sees the delicate citronella and lemon grass oil of Ceylon adulterated with such a substance as kerosene one is prepared for any kind of adulteration. The Cingalese prepare, from the roots of the cinnamon a substance like camphor, which is made into candles for festive occasions. The bark of the cassia plants of China is greatly inferior to the Ceylon cinnamon, but the leaves have a pleasanter scent: this China cassia is supposed to be the cinnamon of the Mosaic and other ancient writings. However this may be, the Ceylon cinnamon, once so famous and so valuable, has fallen upon evil days, and now, like the silver in Solomon's time, is "little accounted of."—*London Times.*

Petroleum Engines.

It is interesting to learn that two engines using kerosene oil are now in Ceylon and have been tried successfuly: one on an estate upcountry for some time, and the other just proved satisfactory in Colombo. We have been allowed to copy the following extract from a planter's letter on the subject as of special public interest:

"If you are to get an engine you should get one the same as ——'s petroleum. They are by far the best in every way and cost far less than any other driving power you can have, unless, of course, a water wheel. They are as simple as an old pump and will go without anyone near them for any length of time, and if I had 1,000 acres of jungle near at hand I would get a petroleum engine. In fact there is no comparison and I have seen —— working for months now. They pour in the cheapest and coarsest kerosene oil into a tank, start the engine, lock the door of the engine house, and it will go by itself the whole day. No fire or anything of the kind near it. It is just like a small cannon with the piston rod going inside; and the power of force is obtained in the same way. Every time the piston rod revolves there is an explosion of one drop of kerosene oil which of course drives back the piston rod, the oil is ignited inside the cannon breach by the electric spark, and you start and stop the engin by removing the zinc plate from the galvanic battery. There is no noise or sound and she works up to 8 H. P., but you can get them up to 350 H. P. I don't know why our Company did not get them. Why, a steam-engine costs ten times the amount to work."—*Tropical Agriculturist.*

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PRICES CURRENT:—
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Oils 49
Naval Stores 49
Drugs ..... 49 & 50
Chemicals 50
Dyes 50

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IMPORTS, EXPORTS, DOMESTIC RECEIPTS, Etc.

IMPORTS ENTERED AT NEW YORK FOR CONSUMPTION.

Week ending Dec. 20.

ACID BENZOIC—1 cs, Pickhardt & Kuttroff, Obdam, Rotterdam
BORACIC—60 cks, 69,901lb, Roessler & Hasslacher Chemical Co, Assyria, Leghorn
1 ck, 1,085lb, J J Keller & Co, Assyria, Leghorn
4 cks, 4,423lb, McCoy & Sanders, Assyria, Leghorn
5 cks, 3,283lb, H J Baker & Bro, Anchoria, Glasgow
CARBOLIC—30 cks, 8,253 lb, W Zinsser & Co, City of Berlin, Liverpool
36 cs, F J Macnaughton, Umbria, Liverpool
20 cs, 2,000lb, Rogers & Pyatt, Erin, London
PHOSPHORIC—3 cs, R F Downing & Co, Tower Hill London
PYRO—1 cs, Pickhardt & Kuttroff, Obdam, Rotterdam
ALIZARINE—80 cks, Pickhardt & Kuttroff, Obdam, Rotterdam
68 cks, 27,744lb, Lutz & Movius, Russia, Hamburg
25 cks, W J Matheson & Co, Arizona, Liverpool
ALKALI—5 cs, R F Downing & Co, Tower Hill, London
ALOES—130 cs, 10,275lb, D A DeLima & Co, Valencia, Curacoa
ALUM EARTH—23 cks, 39,673lb, Ely & Earl, Russia, Hamburg
AMMONIA SAL—89 cks, 22,125lb, P Bauer & Co, Buffalo, Hull
ANILINE COLORS—30 cks, 11 cs, A Klipstein, Rhyniand, Antwerp
39 cks, 6 cs, Pickhardt & Kuttroff, Obdam, Rotterdam
10 cks, C Georgi, Obdam, Rotterdam
1 cs, J M Huber, Trave, Bremen
9 pgs, 1,025lb, Lutz & Movius, Russia, Hamburg
7 pgs, 700lb, W J Matheson & Co, La Bourgogne, Havre
2 cs, 400lb, P H Karcher & Co, La Bourgogne, Havre
13 cks, Earle & Co, Russia, Hamburg
19 pgs, 1,900lb, Sykes & Street, La Gascogne, Havre
ANISEED—99 bgs, 16,649lb, Stallman & Fulton, Buffalo, Hull
ANNATTO SEED—1 bbl, 1 bg, C Wessels & Co, Dorian, Kingston
1 bbl, 150lb, A S Lascelles & Co, Dorian, Kingston
ANTIMONY—30 cs, 6,608lb, Gribble & Nash, Beniarig, Hiogo
ARCHIL—12 cks, C B Richard & Co, Russia, Havre
3 cks, 2,715lb, W A Ross & Bros, Umbria, Liverpool
10 cks, 4,500lb, Sykes & Street, La Gascogne, Havre
ARGOLS—94 cks, 35,743lb, C Pfizer & Co, England, Liverpool
197 bgs, 60,925lb, New York Tartar Co, La Bourgogne Havre
50 bgs, 14,227lb, New York Tartar Co, Assyria, Leghorn
276 bgs, 99,136lb, C Pfizer & Co, Assyria, Leghorn
175 bgs, 44,204lb, L Engelhorn, Assyria, Naples
409 bgs, 110,101lb, L Engelhorn, Effective, Messina
598 bgs, 159,689lb, New York Tartar Co, Effective, Messina
25 cks, 23,480lb, Loeb Bros, City of Paris, Liverpool
165 bgs, 43,518lb, C Pfizer & Co, Wimbledon, Messina
335 bgs, 86,968lb, New York Tartar Co, Wimbledon, Messina
REF—8 cks, 3,329lb, W R Peters & Co, Assyria, Naples
BALSAM—5 bls, 563lb, F Probst & Co, Colon, Aspinwall
COP—6 cs, 600lb, Sears Commercial Co, Colon, Aspinwall
20 cs, 1,566lb, Mosle Bros, Valencia, Maracaibo
5 bbls. 1,810lb, Dodge & Olcott, Cyril, Ceara
BARIUM CAUSTIC—1 cs, Rogers & Pyatt, Russia, Havre
BARK—50 bls, R Brueckner & Co, Buffalo, Hull
BARYTES CARB—50 tns, Hammill & Gillespie, St Oswald, Newcastle
BLEACH—40 bbls, 5 cs, Davis, Wolt & Co, England, Liverpool
202 cks, 223,710lb, E Hill's Son & Co, Sorrento, Newcastle
102 cks, 127,314lb, J Lee & Co, Sorrento, Newcastle
81 cks, 87,295lb, E Hill's Son & Co, St Oswald. Newcastle
334 cks, 380,648lb, Wing & Evans, Runic, Liverpool
BONES—406 tns. A B Morton & Son, Don Justo, Paysundu
ASH—136 tns, A B Morton & Son, Don Justo, Paysundu
BRIMSTONE—950 tns, Leber & Bernhard, Effective, Girgenti
500 tns, J L Morgan & Co, Effective, Girgenti
150 tons, Parsons & Pettit, Wimbledon, Catania
BRONZE POWDER—2 cs, S Ullman, Russia, Hamburg
CARDAMOMS—10 cs, Dodge & Olcott, Erin, London
CASSIA—160 cs, Mei Lei Wau & Co, Narwhal, Hong Kong
300 cs, 19,050lb, C Von Pustau & Co, Agenor, Hong Kong
BUDS—100 cs, 6,650lb, C Von Pustau & Co, Agenor, Hong Kong
CASTOR SEED—663 bgs, 2,240 bu, Oil Seed Pressing Co, Erin, Lonyon
CEMENT—1,000 cks, Hammill & Gillespie, Galatea, London
1,000 cks, Dickinson Bros & King, Galatea, London
1,100 cks, H Fleming, Galatea, London
568 cks, E Thiele, Russia, Hamburg
112 cks, H Fleming, Buffalo, Hull
560 cks, J W Binney, St Oswald, Newcastle
500 cks, Batjer & Meyerstein, Sorrento, Newcastle
560 cks, J W Binney, Sorrento, Newcastle
CHALK—50 tns, J Brand, J Stafford, London
280 tons, F W J Hurst, Erin, London
CHAMOIS—2 cs, A Isaacs & Co, Germanic, Liverpool
4 cs, Lebess Sponge Co, Germanic, Liverpool
CHAMOMILES—11 cks, 1,959lb, R Brueckner & Co, Buffalo, Hull
CHEMICALS—2 cks, J Clay, Russia, Hamburg
2 cks, 550lb, L Engelhorn, Russia, Hamburg
10 cs, Schering & Glatz, Russia, Hamburg
5 cs, Lehn & Fink, Russia, Hamburg
CHILLIES—100 bls, 10,910lb, Lewis German, Erin, London
CHINA CLAY—509 cks, 526,400lb, J L Smith & Co, Lake Winnipeg, Liverpool
CHLORAL HYDRATE—8 cs, Lehn & Fink, Russia, Hamburg
CLOVES—100 bls, 13,816lb, L German, Erin, London
2 cs, 328lb, Thurber, Whyland & Co, Erin, London
100 bls, 13,328lb, G W Sheldon & Co, Erin, London
COCA LEAVES—15 bls, 2,803lb, W R Grace & Co, Colon, Aspinwall
COLORS—4 cks, J M Huber, Trave, Bremen
16 cs, Pickhardt & Kuttroff, Obdam, Rotterdam
23 cks, 10,817lb, Pickhardt & Kuttroff, Russia, Hamburg
14 kgs, 1 cs, R F Downing & Co, Erin, London
10 bbls, A B Ansbacher & Co, Buffalo, Hull
1 cs, S Ullman, Russia, Hamburg
25 cks, 8,200lb, G W Sheldon & Co, Freidlander, Bremer
CORK SQUARES—14 bls, Colgan & Co, Erin, London
CUDBEAR—5 cks, 3,720lb, W J Matheson & Co, Erin, London
10 cks, 3,696lb, New York Dye Ext & Chem Co, Erin, London
5 cks. 4,013lb, W A Ross & Bro, Umbria, Liverpool
CUTTLEFISH BONE—16 cs, 1,958lb, Carleton & Moffatt, Albany Singapore
DANDELION ROOT—4 bls, 890lb, R Brueckner & Co, Buffalo, Hull
DEXTRINE—50 cks, 11,087lb, C Morningstar & Co, Taormina. Hamburg
DOGGRASS—6 bls, R Brueckner & Co, Buffalo, Hull
DRUGS—6 cs, W H Schieffelin & Co, Erin, London
30 pgs, 6,082lb, J Clay, Buffalo, Hull
DUTCH METAL—1 cs, B Meiners, Trave, Bremen
DYEWOOD EXTRACT—35 cks, 18,912lb, Pickhardt & Kuttroff, Rhyniand, Antwerp
15 cks, Sykes & Street, Buffalo, Hull
FINISHING PASTE—5 cks, 3,584lb, J C Bloomfield & Co, Erin, London
FLOCKS—31 bgs, 3,307lb, A Keppelman, Erin, London
FULLERS EARTH—1,872 bgs, 349,940lb, Hammill & Gillespie Galatea, London
FUSTIC—5 tons, G Wessels & Co, Bergenseren, Pt Maria
EXTRACT—25 cks, 12,463lb, Howe, Balch & Co, Umbria, verpoo
GALLS—30 cs, 3,990lb, C Von Pustau & Co, Agenor, Hong Kong
GAMBIER—316 bls, 89,549lb, Core & Herbert, Erin, London
GAMBOGE—6 cs, 925lb, J Clay, Erin, London
2 cs, 310lb, Hall & Ruckel, Erin, London
GELATINE—10 cks, J Duncan's Sons, Germanic, Liverpool
2 cs, Berger & Wirth, Trave, Bremen
20 cs, 2,096lb, Lutz & Movius, Taormina, Hamburg
GENTIAN ROOT—6 bls, Lehn & Fink, Britannia, Marseilles
GLASS PLATE—16 cs, Heroy & Marenor, Rhyniand, Antwerp
6 cs, R F Downing & Co, Russia, Hamburg
WINDOW—187 cs, Heroy & Marennor, Arizona, Liverpool
54 cs, Holbrook Bros, Arizona, Liverpool
GLUE—50 bgs, 5,600lb, A K Gardiner & Bro, C of Berlin Liverpool

OIL COTTONSEED
1,750 gls, Sobraow, Antwerp
OIL FISH
39,864 gls, Colina, Glasgow
OIL LARD
875 gls, Nantique, Havre
OIL RED
10,800 gls, Teutonic, Liverpool
3,900 gls, Horn Head, Glasgow
OIL CAKE
909,570lb, Holyrood, London
137,988lb, Fremona, Leith
225,592lb, Athens, Belfast
478,243lb, Horn Head, Glasgow
OLEOSTOCK
8,000lb, Holyrood, London
56,400lb, Colina, Glasgow
60,000lb, Horn Head, Glasgow
ROOT MEDICINAL
14 bls, America, Bremen
ROSIN
500 bbls, Holyrood, London
STARCH
28,000 lb. Sobraow, Antwerp
STEARINE
34,000lb, Colina, Glasgow

San Francisco Exports.

For week ending Dec. 11.

BORAX
650lb, Acapulco, Mexico
CANDLES
200 bxs, J N Ingalls, Mexico
49 bxs, Alden Besse, Honolulu
80 bxs, Acapulco, Mexico
50 bxs, Consuelo, Kahului
80 bxs, W S Bowne, Honolulu
210 bxs, Australia, Honolulu
FERTILIZERS
1,786 bgs, Consuelo, Kanului
GINSENG
13,868lb, C of Rio de Janeiro, China
OIL LUBRICATING
1,000 gls, J M Ingalls, Mexico
573 gls, Alden Besse, Honolulu
OIL OLIVE
80 gls, Acapulco, Central America
OIL CAKE MEAL
10 sks, Consuella, Kahului
25 sks, W S Bowne, Honolulu
PAINT
9 pgs, Acapulco, Central America
20 pgs, Acapulco, Mexico
8 pgs, Alden Besse, Honolulu
6 pgs, Consuelo, Kahului
8 pgs, Australia, Honolulu
QUICKSILVER
2 fl, Acapulco, Central America
ROSIN
10 bbls, Acapulco, Central America
SOAP
90 bxs, Alden Besse, Honolulu
140 bxs, Consuelo, Kahului
65 bxs, W S Bowne, Honolulu
328 bxs, Australia, Honolulu
SODA
1,690lb, Australia, Honolulu
SPICES
12 pgs, Acapulco, Central America
18 pgs, Australia, Honolulu
STARCH
3,200lb, J N Ingalls, Mexico
1,940lb, Acapulco, Central America
640lb, Alden Besse, Honolulu
796lb, Australia, Honolulu
TALLOW
55,803lb, Acapulco, Central America
TAR
8 bbls, Acapulco, Central America
WHITE LEAD
256lb, Acapulco, Central America
600lb, Australia, Honolulu

Boston Exports.

For week ending Dec. 19.

ASBESTOS
250 bgs, Lepanto, Antwerp
1,200 bxs, 57 bbls, Stockholm City, London
300 bgs, Bostonian, Liverpool
224 bgs, Norwegian, Glasgow
CEMENT
50 bbls, Lucretia, Yarmouth
5 bbls, Water Witch, Port au Prince
COTTONSEED MEAL
60 bgs, Morris Wilson, Bridgewater
5 bgs, Cyrene, Bridgewater
5 bgs, Cygnet, Windsor, etc
2 tons, Yarmouth, Yarmouth
DYESTUFFS
360 bxs, Stockholm City, London
FISH SOUNDS
71 bgs, Bostonian, Liverpool
GLUE FISH
5 bbls, 10 cts, Cephalonia, Liverpool
GREASE
125 bbls, Bostonian, Liverpool
100 bbls, Hibernian, Glasgow
LOGWOOD
10 bbls, Halifax, Halifax
OIL
100 cs, Flamborough, Port Antonio
70 bbls, Norwegian, Glasgow
OILLARD
3,000 cs, Xenia, Valparaiso
OIL LUBRICATING
25 bbls, Stockholm City, London
150 bbls, Xenia, Valparaiso
OIL CAKE
2,620 bgs, Cephalonia, L'pool
1,502 bgs, Chicago, Antwerp
OIL SEED
25 bbls, Stockholm City, London
OIL SPERM
50 bbls, Istrian, L'pool
OILTALLOW
217 tcs, Stockholm City, London
OIL VEAL
5 bgs, Cygnet, Windsor
PAINT
10 cs, Bostonian, L'pool
PAINT COPPER
37 cs, Istrian, L'pool
PITCH
25 bbls, Halifax, Halifax
50 bbls, Fruit Girl, St Johns
PITCH, COAL TAR
6 bbls, Water Witch, Port au Prince
TALLOW
174 hhds, 90 tcs, Norwegian, Glasgow
8 hhds, Hibernian, Glasgow
TURPENTINE SPIRITS
200 bbls, Xenia, Valparaiso
WAX
100 bbls, Norwegian, Glasgow

New Orleans Exports.

For week ending Dec. 19.

COTTONSEED MEAL
39,426 sks, Lavernock, Hamburg
2,400 sks, Saturnina, Liverpool
5,666 sks, Red Sea, Liverpool
OIL
1,650 tcs, Royal Welch, Genoa
OIL COTTONSEED
500 bbls, Red Sea, Liverpool
100 bbls, Marseille, Antwerp
OIL CAKE
10,357 sks, Lavernock, Hamburg
1,600 sks, Saturnina, Liverpool
3,709 sks, Red Sea, Liverpool
SOAP COTTONSEED
500 bxs, Red Sea, Liverpool
TALLOW
300 tcs, Royal Welch, Genoa

Philadelphia Exports.

For week ending Dec. 20.

BONEBLACK
10 bbls, Ohio, Liverpool
DYEWOOD EXTRACT
50 bbls, Ohio, Liverpool
OIL LUBRICATING
185 gls, Ohio, Liverpool
OIL CAKE
3,000 bgs, Indiana, Liverpool
1,400 bgs, Ohio, Liverpool

Savannah Exports.

For week ending Dec. 19.

COTTONSEED
186 bgs, Inchrhona, Liverpool
ROSIN
3,646 bbls, Transatlantic, Graceton
540 bbls, Fritz Smith, London
SPIRITS TURPENTINE
2,000 bbls, Fritz Smith, London

Charleston Exports.

For week ending Dec. 21.

ROSIN
2,375 bbls, Emanuele, Marseilles
3,737 bbls, Emma L Shaw, Genoa
2,222 bbls, Charles Kahl, London

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Calcutta

TO NEW YORK.

Charles Dennis, 25,095 bgs linseed
Sultan, 2,287 bgs cutch, 1,100 bgs saltpeter 2,002 bgs linseed, 85 cs button lac.
Pythomene, 10,920 bgs linseed, 25 cs button lac
City of Philadelphia, 1,596 bgs saltpeter, 500 bgs cutch, 1,000 pkts turmeric, 1,553 pkts ginger,
Orchomene, 1,022 bgs saltpeter, 5,000 bgs linseed.
Exporter, 17,409 bgs linseed.
El Capitan, 5,137 bgs linseed. 1,000 pkts ginger.
Glaucus, 21,760 bgs linseed
Walter H Wilson, 1,559 bgs saltpeter, 16,266 bgs linseed, 60 cs button lac
Record, 1,144 bgs saltpeter, 2,000 bgs cutch, 1,984 bgs linseed
Esther Roy, 578 bgs saltpeter, 20,252 bgs linseed
Lansdowne, 340 bgs saltpeter
Ingomar, 1,111 bgs saltpeter, 300 bgs, 500 pkts turmeric, 11 pgs assafœtida

TO PHILADELPHIA

Champion, 20,914 bgs linseed

TO SAN FRANCISCO

Niobe, 15,083 bgs linseed

Colombo.

TO NEW YORK

Annie M Smull, 3,008 cwt cocoanut oil, 921 cwt Plumbago
Lancefield, 2,006 cwt cocoanut oi , 4,863 cwt plumbago, 368,752 ozs citronella oil
Veronica, 2,999 cwt cocanut oil, 13,888 cwt plumbago, 14,608 ozs cinnamon oil

Girgenti

TO CHARLESTON

Stella di Sorr 500 tns Brimstone seconds

TO SAVANNAH

Francesca R 650 tns Brimstone thirds
Gloria, 990 tns brimstone seconds

Hiogo

TO NEW YORK

Fred B Taylor, 357 tubs camphor, 100 cs vegetable wax, 550 cs fish oil, 311 cs sulphuric acid.
H B Cann, 800 tons sulphur, 371 cs camphor oil.
Manuel Llaguno, 500 pcls Camphor.

Hong Kong

TO NEW YORK

Haydn Brown 50 pcls cassia, 25 cs essential oil
Josephus, 2,500 pcls cassia, 50 cs essential oil.
Mauna Loa, 80 pcls cassia
Occidental, 1,250 pcls cassia, 25 cs gall nuts
Australia, 750 pcls cassia.

Licata

TO WILMINGTON

Dorstea M 560 tns Brimstone seconds

Singapore

TO NEW YORK

Carrie L Tyler, 3716 pcls gambier, 430 pcls flake tapioca, 1,182 pcls pearl tapioca, 430 pcls sago flour, 841 pcls black pepper, 430 pcls cube gambier, 1,095 pcls gum copal, 85 pcls gum damar, 100 cs essential oil, 8 bls putah leaves.
Annie Stafford, 7,598 pcls gambier, 2,510 pcls cube gambier, 1,555 pcls pearl tapioca, 5,155 pcls sago flour, 1,704 pcls tapioca flour, 3,052 pcls gum copal, 841 pcls black pepper, 1,189 pcls flake tapioca, also 258 cs gum copal transhipped.
Margarethe, 3,772 pcls gum copal, 10,068 pcls gambier, 845 pcls cube gambier, 1,681 pcls sago flour, 1,192 pcls flake tapioca, 255 pcl white pepper, 2,078 pcls black pepper, 41 pcls pearl tapioca, also 263 cs gum copal transhipped.
Romanoff, 10,993 pcls gambier, 1,007 pcls cube gambier, 2,491 pcls sago flour, 966 pcls flake tapioca, 3,042 pcls gum copal, 289 pcls gum damar.
Emily F Whitney, 12,644 pcls gambier, 532 pcls cube gambier, 4,204 pcls sago flour, 2,294 pcls gum copal, 680 pcls pearl tapioca, 1,052 pcls flake tapioca

TO BOSTON

Evie J Ray, 4,200 pcls gambier, 928 pcls cube gambier, 3,362 pcls sago flour, 421 pcls tapioca flour, 100 pcls pearl sago, 1,093 pcls pearl tapioca, 925 pcls flake tapioca, 252 pcls black pepper, 505 pcls gum copal.

West Coast South America

TO BALTIMORE

Ameer, 8,000 nitrate soda.

TO BOSTON

Jackson, 8,000 bgs nitrate soda.

RECORD OF VESSELS.

Port & Name.	Sailed.	Last Reported
Calcutta.		
C Dennis	Oct 7..	
Sultan	Sept 4...	
Pythomene	Sept 20..	
City of Phila	Oct 2 ...	
Orchomene	Oct 3....	
Exporter	Oct 8....	
El Capitan	Oct 8....	
Glaucus	Oct 16...	
Niobe	Oct 27..	
W H Wilson	Oct 28..	
Record	Oct 30..	
E Roy	Nov 7..	
Lansdowne	Nov 8..	
Champion	Nov 10..	
Ingomar	Nov 12..	
Colombo.		
A M Smull	Oct 3...	
Lancefield	Oct 11..	
Veronica	Oct 25..	
Girgenti.		
Stella di Sorr	Sept —..	
Frances R	Sept —..	
Gloria	Oct —...	
Hiogo.		
Fred B Taylor	Aug 15..	
H B Cann	Sept 18..	
M Llaguno	Sept 26..	
Hong Kong.		
Haydn Brown	Sept 21..	
Josephus	Sept —..	
Mauna Loa	Sept —..	
Occidental	Oct 27..	
Australia	Nov 4..	
Licata.		
Dorstea M	Sept —..	
Singapore.		
Carrie L Tyler	Aug 29..	
E J Ray	Sept 17..	
A Stafford	Sept 21..	
Margarethe	Sept 24..	
Romanoff	Oct 17..	
E F Whitney	Oct 31..	
W. C. South America		
Ameer	Sept —..	
J Jackson	Sept —..	

Japanese Enamels and Glazes.

BY PAUL JOCHUM.

The author of this translation of a technical work on pottery, by a Japanese writer, Toyokichi Takamasu, describes the raw material, enamels and glazes which are employed in the Shippowocks of Hamikawa, in the province of Kirto, and which are also used, with slight variations, in other Japanese works.

The oxide of iron is found of the best quality as a mineral at Yechizen (in the province of Jwashiro), and at Bichu, and is also prepared by distilling iron sulphate in a kind of retort, the acid evolved being collected in a receiver.

The manufacture of a yellow enamel is effected by mixing pure antimony with the colorless lead glass, the yellow color being due to the formation of antimoniate of lead.

The true enamels, which serve for the work, which is carried out on metals, porcelain and stoneware, are prepared by the Japanese, according to the following recipes:—

1. WHITE ENAMEL.

	Grms
Lead glass	100·00
White lead	26·46
Quartz	26·46

2. BLUE ENAMEL.

Lead glass	100·00
White lead	26·46
Quartz	26·46
Smalts	26·46

3. GREEN ENAMEL.

Green lead glass	100·00
White lead	26·46
Quartz	26·46

4. YELLOW ENAMEL.

Lead glass	100·00
White lead	26·46
Quartz	26·46
Antimony	170·10

5. BLACK ENAMEL.

Lead glass	100·00
White lead	26·46
Quartz	26·46
Ultramarine	26·46

In this case the black coloration is due to the formation of lead sulphide, from the sulphur of the ultramarine.

6. AMETHYST ENAMEL.

Manganese lead glass	100·00
White lead	24·46
Quartz	26·46

7. YELLOWISH GREEN ENAMEL.

Light green lead glass	100·00
White lead	37·00
Quartz	37·00
Antimony	56·70

8. Deep purple porcelain enamel is prepared by adding the requisite quantity of azurite, which varies according to the shade desired to No. 7.

9. Black Porcelain Enamel.—Very finely ground pyrolusite is stirred to a mud with water, and the paste spread over the glazed porcelain. After drying it is covered with a mixture of lead glass and white lead.

10. Gold.—The enamelled articles are either painted with gold powder, which is prepared from the best gold leaf and the pattern then burnt in and polished with an agate, or, instead of pure gold, a mixture of 1 gram of gold with 0·1 gram of borax is employed in exactly the same manner.

In conclusion, we have the enamels or glazes for ordinary earthenware.

The burnt unglazed vessels are covered with a mixture of 37·8 grams of lead glass and 26·46 grams of white lead. These, being stirred to a thin paste with a solution of sea moss (furrori), which contains a gelatinous substance. After the biscuit ware thus treated has been dried in the sun, patterns are painted on with the following colors:—

1. BLUE.

	Grms.
Smalts	3·78
Lead glass	18·90
White lead	11·34

2. RED.

Ocher	3·78
Ruddel	7·56
Quartz	7·56
White lead	11·34

3. PURPLE.

Chinese purple melt	26·46
White lead	37·80
Quartz	7·56

4. YELLOW.

Lead glass	34·02
White lead	37·80
Quartz	9·30
Antimony	22·68

5. BLACK.

Pyrolusite	22·68
White lead	5·80

6. GREEN.

Lead glass	37·80
White lead	37·80
Malachite	15·12

‖After drying, the following lower glazes are put on after being made into a paste, as described above:—

1. WHITE GLAZE.

	Grms.
Quartz	13·55—15·12
White lead	37·80

2. GREEN GLAZE.

White lead	37·80
Malachite	[illegible]
Lead glass	[illegible]
Quartz	11·34

3. YELLOW GLAZE.

White lead	37·80
Quartz	11·34
Ocher	5·67
Lead glass	15·12
Antimony	11·34

4. BLACK GLAZE.

Malachite	26·46
Ruddel	7·56

Quartz	3·78
Lead glass	87·80
White lead	26·46

The articles are either covered with the paste or dipped into it. It is remarkable that the color brown is absent from all the compositions.—*Chemiker Zeitung.*

The McKinley Tariff Bill.

Major McKinley's bill revising the administrative features of the Tariff will be reported to the House soon after holiday recess. The Committee of Ways and Means have the bill under consideration and are making rapid progress. They will go on and will probably complete the subject except for a few debatable provisions, which will be left for further reflection. The bill in many of its features is the same as that which passed the Senate by an almost unanimous vote two winters ago. One of the leading provisions is that which establishes a board of nine general appraisers, appointed by the President from both political parties to serve during good behavior, at a salary of $5,000 each. They are to be employed at such ports as the Secretary may designate, but at least three will be constantly on duty at New York, which will become under the new system practically the customs headquarters of the country. The right of an importer to appeal from a decision of a Collector of Customs to the Treasury Department at Washington will be taken away, and, instead, he will be given the right to appeal to the Board of Expert General Appraisers, and if he is dissatisfied with their decision he may appeal on questions of law to the Circuit Court of the United States, and in important cases from the Circuit Court to the Supreme Court. There are some who think that giving power of this sort to a board of nine will be less satisfactory than leaving the ultimate decision by executive officers to the Assistant Secretary of the Treasury, but Assistant Secretary Tichenor is in favor of the plan outlined in the bill, and the committee is convinced that it will be a good one. Major McKinley's bill abolishes damage allowances altogether. Thus far none of the members of the committee of either party have dissented from this. There has been discussion about the provisions throwing the presumption of guilt in certain cases upon the importer, but the legal members of the committee are of the opinion that these provisions are not such as to conflict with the Constitution or with the principle of common law, that a man is presumed to be innocent until he is proved guilty. One of the best features of the bill, and one which has not been incorporated in any bill heretofore reported, classifies imported articles for the purposes of estimating and assessing duties. The classification defines what articles shall be held to be specially enumerated, what ones enumerated under general provisions, and what ones non-enumerated. These definitions will be of great value in determining the doubtful points of tariff interpretation.

Consular Invoices.

One of the abuses which has grown up with the connivance or through the ignorance of some of our consular officers, is the inclusion in one invoice of goods shipped to the United States which have been produced in other consular districts than that in which the invoice is offered for authentication. A consul who is called on to authenticate an invoice of goods which may have been produced hundreds of miles from his post, and which are of a different quality from those with which he is familiar, cannot exercise the supervision called for by the Treasury Department in order to guard against undervaluation and other frauds. The matter has recently been brought forcibly to the attention of the State Department by Mr. Henry F. Merritt, the Consul at Chemnitz. Mr. Merritt has been one of the most efficient officers in the service in ferreting out undervaluations, and has been of much assittance to Mr. Edwards, the Consul at Berlin, whose rigid enforcement of the Treasury regulations has called down upon him the wrath of some of the German exporters. Mr. Merritt suggested certain amendments to the Consular Regulations, and the State Department, having forwarded his report to the Secretary of the Treasury, has just promulgated an order directing consular officers to be governed by Secretary Windom's wishes. Secretary Windom, in his reply to the State Department, which is sent to each Consul for his guidance, says:

"It is inferred from the statement of the Consul that large quantities of goods which have been gathered together by commission men and resident merchants doing business in the United States are included by such agents in general invoices, which are then taken before the consular officer, and, after being declared to by the agents or *commissionaires*, are authenticated by the Consul, thus indicating that such general invoices cover not only merchandise which may have been purchased or manufactured in the consular district where the invoice is presented for authentication, but also large quantities of other merchandise, which may have been purchased and manufactured in other consular districts, and which last mentioned merchandise is usually shipped directly from the manufactory to the foreign port of exit, not even passing through the consular district in which the invoice is authenticated, so that the same is not seen by the agent or or *commissionaire*.

"If such practice exists, it would seem to be entirely contrary to the consular regulations as laid down by your Department, article 662 of which prescribes that 'goods bought or manufactured at places in different consular districts, or shipped from such districts, cannot be included in the same invoice;' and again, that 'when American firms have agents stationed abroad, or branch house in a country, no general agent of the house at a particular place will be permitted to declare to the firm's invoice of goods bought or manufactured in different consular districts. The invoices must be produced to the consular officer of the district within which the branch house is located or the agent is stationed, and within which the goods were bought or manufactured. Any instructions or concessions which heretofore have been construed to authorize a different practice are revoked and canceled, and consular officers are enjoined to conform to and enforce the rule as now stated.'

"The suggestions of the consul, therefore, with a view to a discontinuance of such practice and the prevention thereof in the future, which are that every commission man and agent obtain from the original seller of goods an extra copy of orginal bills, and that one copy of each such bill which covers goods embraced in the invoice which the commissionaire or agent prepares for consular classification be given to the consul to be kept by him and checked against the certified invoice filed in the consulate with the original and certified invoice, so that the portion of such invoices presented for authentication which covers any goods shipped from consular districts can be eliminated therefrom, meet with the approval of this department, the more especially as it is not seen how a consular officer can intelligently authenticate an invoice of merchandise, which may have been shipped from another consular district, and regarding the character or value of which he has no actual knowledge or information.

Glass Tanks Abroad.

In a letter to Mr. William Slicker, president of the Universal Federation of Window Glass Workers, Mr. Albert Delwarte, of France, says that it has never been a question with the Belgian manufacturers to abandon tanks. From a copy of the letter, published in the *American Glass Worker*, we take the following: "Another is to be built at Schmidt Brothers and Sisters, and they intend to build two others at the Annommous Co. of Charleroi, and the tanks of Marimont and De Dorlodot are going to be again in operation. Others, far from abandoning the tank furnaces, intend to build some. That does not mean that the results obtained are entirely satisfactory, for this depends a great deal upon the building of the tanks, and especially upon the organization of the work. So the results are different from one establishment to the other. Some of them produce as high as 80 per cent. of first quality; some others obtain only 40 per cent., but none in Belgium falls to 17 or 20 per cent., as certain newspapers of America published. All their information comes from manufacturers' reports.

"The tank furnace will be still for a long time a subject of study, as well for the engineers as for the manufacturers themselves, but from to-day it may be said they are here to stay and will prosper. There will be still many searchings, many systems will have to be abandoned as the Gobble system that did not give any good result in the South of France, at Penchot, Bessiges and Giroes, where tank furnaces have been established or re-established this year.

"There is the exact situation in Belgium as in France. In England, Mr. Hartley's new tank furnace will be in operation in the end of December or beginning of January. A judgment of it may only be taken at that date. Those of St. Helens, Pilkington Bros.' are always going on in the same way. That demonstrates that they are far from any danger of abolishment."

The Imported Glass Workers.

A dispatch from Washington in Thursday's daily papers said: "The Jeanette labor importation case, which everybody thought had gone to the United States District Court at Pittsburg, comes up to-morrow afternoon in the Treasury Department. A hearing has been fixed for 3:30 p. m., when James Campbell, President L. A. 300, K. of L., and others, among them Charles Litchman, late Secretary of the Knights of Labor, will appear before Secretary Windom, Attorney General Miller and Solicitor of the Treasury Hepburn, and will be given every opportunity to state their side of the case: In the meantime, by order of the Attorney General, proceedings have been stopped at Pittsburg."

At the time suit was ordered by the Attorney General there was a general impression that undue haste was being shown and there was quite a little feeling between the Treasury Department and the Attorney-General's office. The Collector of the Port at Boston had made his report to the Treasury Department, which came under the care of Col. Tichenor, Third Assistant Secretary. That office referred the report, with all the papers in the case, to Solicitor of the Treasury Hepburn, who carefully considered the case and prepared a most exhaustive opinion which was in due time submitted to Secretary Windom. The latter was at that time very busy with his annual report to Congress and let the matter rest for a few days.

The Attorney General, however, thinking that the case had been delayed too long, instructed United States District Attorney Lyon, of Pittsburg, to bring suit. These instructions had hardly been sent when the Attorney General saw that he had acted a little hastily in not giving the accused a hearing before the department, and he dictated a letter to his stenographer instructing Mr. Lyons to delay action until further investigation was made. This letter was not written by the clerk until the day on which suit was entered, and was received too late by Mr. Lyons.

It was then decided to stop proceedings until both the Secretary of the Treasury and the Attorney General had looked more closely into the case and had granted the glass men a hearing. This has been fixed for to-morrow (Thursday) afternoon, Solicitor Hepburn leaving some important work in New York to be present.—*American Glass Worker.*

The Tariff on Window Glass.

A dispatch from Pittsburg says that President James Campbell of the Window-glass Workers' Association, returned last week from the national capital, where he had a long interview with Congressman William McKinley on the tariff question.

"Major McKinley assured me," said Mr. Campbell, "that a tariff bill will be completed soon after the holiday recess. To that end the committee will continue to work through the recess, and Mr. McKinley asked that the glass workers' committee appear in Washington on December 31, to assist in the revision of the tariff on window glass. It seems assured that the duties on this article will be increased. It is apparent that since foreign producers have cheapened the cost of their product shipments to the United States have increased. It is either, therefore, an increase in the tariff or a reduction of American prices at all ports of entry and within a radius of from 100 to 250 miles of such ports. The conclusion is that to increase the tariff is much the better plan. In the words of Major McKinley the revision will be put upon a basis which will suit all industries. Duties will be increased on such articles as seem to require it.

"You know there has been some radical changes in many branches of trade. The introduction of labor saving machinery, the cheapening of some classes of raw materials, will admit of a reduction of tariff on some articles, while the reverse conditions apply to others and demand an increase.

Cinchona In Ceylon.

Mr. Wijnschenk-Dom has just returned after a trip of some 17 days' duration through our Cinchona districts; he has visited the Agras, Udapusselliawa, Badulla and Madulsima districts, and he has returned quite satisfied that Java has very little to fear from the competition of Ceylon and the early future. Four or five years, he thinks, will see our exports of cinchona bark dwindle away to an unappreciable quantity. Our visitor, in fact, saw no expanse of cinchona cultivation worthy of special note save on Cannaverella estate. That, he maintains, is the finest cinchona plantation in Ceylon; it is worth coming from Java to see it; and Mr. Macfarlane he found to be an enlightened and enthusiastic cultivator, very much after the fashion of the Java planters who give all their thoughts to cinchona. Mr. W. Dom was everywhere most kindly received, but most of the other gentlemen, as he says truly, had tea and coffee more in view perhaps than cinchona. He thinks that Cannaverella might well be the Ceylon show place with reference to cinchona, and then we have to realize that there are perhaps 25,000 to 30,000 acres similarly cultivated in Java, and a good deal with ledgerianas of which there are few in Ceylon. All this may be true, but we suspect it will be found that the Uva districts with a more encouraging market can go on permanently, giving two or three million lbs. of good marketable bark, even after our total export dwindles to a half or third of what it now is. Our visitor after seeing our districts does not think it necessary to form a syndicate in Java.

Our contempory of the local *Times* estimates the quantity of growing bark in the island just now as follows:

QUANTITY OF BARK NOW GROWING.

	Lbs.
Madulsima	2,500,000
Badulla	2,500,000
Udapusselliawa	2,000,000
Haputale	1,500,000
Uva total	8,500,000
Rest of island	6,000,800
	14,500,000

This is exclusive of stock lying in Colomb stores, probably about 2 million lb. Our own calculation is that if Ceylon were cleared of all marketable bark at this moment as much as 20 million lbs. could be collected. But, practically, this difference in estimates is not of much importance. What is of importance is the estimate of the current season's exports; that our contemporary makes 6 millions against the 7½ millions in our estimate. We think we are more likely to be right. In allowing for a falling off of 3 million lbs. on last season, which gave 10½ million lbs. export, we feel we have gone as far as is safe for season 1889-90.—*Tropical Agriculturist.*

Florida Phosphates.

A telegram from Jacksonville, Fla., of December 2, says:

"A sensation was caused on the streets today by the report of the discovery of rich phosphate beds at the old Hart Plantation, seven miles from Jacksonville, on the Florida Central and Peninsular railroad. The property is part of the old old Barber grant, and is in Duval county. It belongs to Mrs. G. W. Gill, who last night refused $1,000 per acre for it. An investigation will be made, for expert say that the samples are as rich as any discovered in South Florida.

"A gentlemen recently returned from South Florida, in an interview with the correspondent, stated that fertilizer prospectors are flocking into Marion, Pasco, Citrus, and Hernando counties and buying up lands. He says there is going to be one of the biggest booms down there next year in developing phosphate beds that ever struck this country. A day or two ago a man from Grand Rapids, Mich., ran down into Marion county to look after 480 acres he purchased there three years ago for $600, merely to secure a desirable place on which to start an orange grove. While down there some one discovered phosphate on it. The owner was hunted up at Ocala in the hotel and asked what he would take for the land and after a little chat he was offered and took in cash $15,000."

The foregoing story may be circulated in the interest of land speculators.

Phosphate Rock Shipments.

Following are the shipments of phosphate rock, from Charleston, S. C., for Nov., 1887, 1888 and 1889, as furnished by Mr. P. C. Trenholm, of that city:

Domestic.	1887.	1888.	1889.
Baltimore	2,564	5,665	4,135
Philadelphia	1,267	550	2,282
New York	....	2,825	675
Barren Island, N. Y	1,280	761	....
Richmond, Va	....	1,401	1,880
Wilmington, Del	730	1,000	1,848
Weymouth, Mass	1,680	....	....
Newtown Creek, N. J	533	600	....
Wilmington, N. C	615	....	....
Petersburg, Va	....	Lost 500	
Elizabethport, N. J	....	....	650
Mantua Creek N. J	....	....	1,155
Alexandria, Va	....	....	725
So. Ca. RR	1,223	1,149	659
C & S RR	1,208	2,141	2,813
N.E. RR	....	174	....
Total	11,028	16,266	17,908
Foreign.			
Genoa	....	51	....

No report in from N. E. R. R. yet.

RECENT PATENTS.

417,294. AZO DYE. Issued Dec. 17, 1889.

Claim.—The coloring matter herein described, which is produced by the action of tetrazo-diphenol ether upon the dioxynaphthaline monosulpho acid obtained by melting the so-called "alpha-naphthol alpha-disulpho acid S" with caustic alkali, and which forms a black amorphous powder giving a blue solution whe dissolved in water, turning red violet by adding caustic alkali; in concentrated sulphuric acid it dissolves with deep greenish-blue color, and a blue precipitate of the dyestuff acid is formed by adding water; unmordanted cotton is dyed by it in an alkaline soap bath a clear greenish blue fast to soap and mineral acid.

417,684. PROCESS OF MANUFACTURING CEMENT. Issued Dec, 17, 1889.

Claim.—1. The process of manufacturing cement, which consists in mixing fluor-spar with clay and lime and subjecting the mixture to the action of heat, substantially as set forth.

2. The process of manufacturing cement, which consists in mixing fluor-spar with cement-producing material and subjecting the mixture to the action of heat while in a dry and comminuted state, substantially as set forth.

3. The process of manufacturing cement, which consists in comminuting and intimately mixing lime, alumina, silica, and fluor-spar, and agitating the mixture in the presence of heat while in a dry and comminuted state substantially as set forth.

4. The process of manufacturing cement which consists in comminuting the cement-producing materials, intimately mixing the same with a fluxing medium, and agitating the mixture in the presence of heat while in a dry and comminuted state, substantially as set forth.

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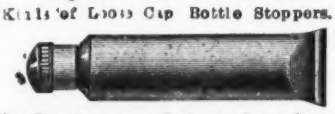

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take hold at this season. Shipments are to be had at 1.32½@1.37½c.

Caustic soda, 60%, is scarce on spot and as a result those whose wants had to be filled were compelled to pay fancy prices. To arrive 2.65@2.75c is named and but little offering. Shipments are quoted at same figures but possibly a shade under might be accepted on firm offer. 70% is held at 2.40@2.45c on spot and to arrive at 2.37½@2.45c. In 74% there has been more inquiry for forward deliveries and several sales reported. Shipments are held at 2.37½@2.47½c. In 77% there is no change to report.

Sal soda shows no improvement; spot goods can be bought at 92½@1c, in a jobbing way. To arrive and for shipments same figures are named.

Alkali, 36%, on spot, is quoted in small way, large lots being unobtainable at 1 37½@1 50c from store. Forward deliveries are held at 1 30@1 37½c. BM, 48%, has arrived freely, but as all went to fill contracts there is nothing to be had excepting from second hands, who are naming 1 45@1 55c. To arrive and for shipments there is nothing offering. BM, 58%, shows the same position as 48%, both as to price and deliveries.

Bleaching powders continue dull, with 1 65@ 1 77½c, named on spot; to arrive and for shipments, 1 45@1 55c will buy.

Nitrate of soda can be bought on spot at 2 20@2 30c, and to arrive, 2 05@2 20c are the asking figures. Shipments are held at 1 87½@ 1 95c.

London Drug Statistics.

The following figures refer to the stocks of the principal drugs in the port of London on November 30, 1889, and to the imports and deliveries from January 1 to November 30, as compiled by the *Chemist and Druggist*:—

Article.	Stocks. 1889	Stocks. 1888	Imported. 1889	Imported. 1888.
Aloes, cs & pgs.....	8,152	6,768	4,083	6,333
Do. gourds.....	1,351	2,128	378	814
Anise, Star chts.....	71	139	40	100
Arrowroot, cks. ..	11,890	11,918	13,454	13,025
Do., bxs & tins	5,348	7,377	1,878	4,821
Balsam, cks &c	2,297	191	284	163
Bark, (Cinchona).				
S American cs....	454		13	
bls, &c.	32,077		12,168	
E. I. Ceylon, and Java, cs.....	472	57,591	996	63,747
Do., do, bls. &c	26,373		45,480	
Borax, pgs.....	491	1,339	64	717
Calumba, pgs.	1,768	1,879	801	1,164
Camphor, pgs.....	102	1,749	2,762	6,452
Cardamoms, chts...	1,276	559	3,126	2,438
Cochineal, srns.....	4,126	4,580	3,410	3,496
Cocc. Ind., bgs, &c.	172	359	120	812
Cream tartar, cks..	19	11	31	20
Cubebs, bgs.	322	191	659	568
Dragon's blood, chts	132	64	193	158
Galls, China, &c, cs.	858	1,997	2,542	8,550
Turkey, &c., sks..	4,695	2,647	9,390	6,655
Gums:—				
Ammoniac, pgs..	94	133	6	13
Animi & copal, pgs	9,530	4,730	13,157	7,896
Arabic, pgs.....	23,558	18,670	28,935	31,180
Asafœtida, pgs...	458	358	931	452
Benjamin, pgs ...	2,132	1,788	3,272	2,738
Damar, pgs.....	5,286	2,717	7,487	4,617
Galbanum, pgs....	12	..	12	..
Gamboge, pgs....	57	77	274	170
Guaiacum, pgs....	..	17	115	22
Kino, pgs.....	116	99	66	73
Kowrie, tns.....	1,557	1,575	2,657	3,211
Mastic, pgs..	33	42	29	67
Myrrh, pgs.....	421	396	332	448
Olibanum, pgs...	3,889	2,927	8,169	7,045
Saudarac, pgs....	252	813	790	1,312
Tragacanth, pgs..	7,436	3,850	8,743	7,591
Indigo, E. I., chts.	10,151	9,449	20,868	19,268
Indigo, Span., srns.	1,331	1,992	3,607	5,990
Ipecac, cks & bgs...	279	126	1,093	508
Jalap, bls.....	71	98	1	182
Lac dye, chts.....	5,700	6,005	....	20
Nux vomica, pgs...	789	1,390	1,342	2,263
Oils—				
*Anise, cs...	29	34	248	153
*Cassia, cs.....	18	7	289	120
Castor, cks..... .	345	365	1,089	405
Castor, cs..... ...	2,381	8,165	5,014	11,949
Cocoanut, tns.....	2,836	1,537	5,455	4,638
Olive, cks, etc....	799	473	3,896	1,964
Palm, tns..... ...	16	51	89	200
Opium, chts. etc.. .	....	1,568	....	812
Rhubarb, chts.....	951	1,038	1,355	1,307
Safflower, pgs.....	456	610	72	593
Saltpeter, tons.....	216	752	3,728	3,629
Soda nitrate, tons..	1,646	1,129	14,360	12,032
Sarsaparilla, bls....	322	411	1,145	1,306
Senna, bls, &c.....	2,808	2,095	4,363	3,893
Shellac, Orange, chts &c.....	41,103	47,142	18,497	35,386
Do., Garnet.....	10,683	15,860	6,776	9,726
Do., Button.....	6,154	8,300	6,084	7,047
Total, chests....	57,940	71,302	31,357	52,159
Sticklac, chts, &c...	3,189	3,410	1,150	1,331
Gambier, tns.....	492	589	8,317	8,627
Cutch, tns.....	3,081	3,137	3,800	5,535
Turmeric, tns.....	2,643	3,251	556	1,726
Vermilion, chts, &c.	17	13	127	87
Wax, bees' bls & srns	1,400	507	1,906	364
Do., cks & cs.....	1,907	1,452	2,606	2,353
Do., cakes	10	16	205	47
Do., Japan. pgs ..	1,510	917	1,238	1,914

*The stocks of anise and cassia oils lying at Smith's Wharf and Brewer's Quay are not included in this return.

Wurtzilite.

BY W. P. BLAKE, M. E.

During a recent visit to Salt Lake City my attention was directed to a newly discovered and peculiar bitumen from the Uintah mountains, in Wasatch county, Utah, between Salt Lake and the valley of Green river. This locality is not far from the source of Uintahite, or "Gilsonite," now an article of commerce and industrial importance.

The new substance differs essentially from any hitherto described. It is a firm, black solid, a little heavier than water, and breaks with a brilliant conchoidal fracture, and has a general resemblance to jet or some of the cannel coals. It is sectile, cutting like horn or whalebone. The shavings and thin flakes, or fragments, have a degree of elasticity. These characters led at first, in Salt Lake, to the supposition and the report that the substance was allied to caoutchouc, or vulcanized rubber. But it was soon found to be without the essential qualities of rubber, not having tensile elasticity, and being very difficult of solution. It was then for a time referred to the species elaterite, the only elastic bitumen described in Dana's Mineralogy. But a comparison of the substance with the description of the assemblage of dissimilar substances classed under the name elaterite shows that it differs from each of them, and that it has much better defined characteristics, which permit a specific description and entitle it to a distinctive name.

Wurtzilite occurs in large, homogeneous masses, free from mechanical admixture and without any evidence of formation in layers, or of fusion. It is amorphous, and when cold, or at ordinary temperatures, it is brittle and breaks with a large conchoidal fracture, giving very brilliant, glossy surfaces with a vitreous luster like uintahite, and resembling in appearance the splendent conchoidal surfaces of newly broken obsidian. It has, however, a degree of toughness which increases with an elevation of temperature, and it requires a quick, sharp blow to detach a flake and secure a good fracture.

Elasticity is observable in thin flakes, but this elasticity may be compared to that of glass or mica rather than to the yielding tensile elasticity of rubber. If the flake is bent too far, or suddenly, it snaps like glass. The substance is also flexible, and when slowly pressed and warmed a flake may be bent nearly double.

Color.—The extremely thin edges of the flakes obtained by fracture are garnet red by transmitted light, often brilliantly so. It would thus appear to be transparent in very thin plates, and to be deep red in color. The color of the mass by reflected light is a jet black.

Hardness.—The hardness is such that it is not impressed by the nail at ordinary temperatures. It scratches gypsum, and does not scratch rock salt. It is thus between two and three in the scale of Mohs.

Specific gravity, at 60° F., 1·030.

Infusibility.—Does not fuse in boiling water, but becomes softer and tougher, and is more plastic, but is not viscid or sticky, and fragments do not cohere.

Fusibility.—It melts in the flame of a candle, takes fire, and burns with a bright, luminous flame, with a slight crepitation and little smoke, giving off a strong bituminous odor. Fused in a glass tube it gives off a dense cloud of white and yellow smoke and distils over a thick, brown, tarry oil with a strong odor, and leaves a small residue of fixed carbon. Fragments warmed in the hand emit a strong odor like that of some of the crude petroleums, which is rather offensive.

Electrical Characters.—It is a good electric. Negative electricity is easily developed by friction. It will be found useful as an insulating material and for other purposes in the arts.

Insolubility.—It is not easily dissolved. It resists the usual solvents of bitumen, but experiments are in progress which will probably lead to a process by which it can be successfully worked in combination with other substances.

This material and the Uintahite, or Gilsonite, were first brought to notice by Mr. Gilson, of Salt Lake, to whom I am indebted for samples for investigation and description. A correspondent of the OIL, PAINT AND DRUG REPORTER, Mr. Wm. L. Lay, of Utah, has noticed the discovery of the bitumen, and, pointing out the differences between it and elaterite and its non-resemblance to rubber, expressed the opinion that it is an important new mineral, in which he is correct. It certainly requires a distinctive name, and in now proposing for it the name "Wurtzilite," I desire to compliment my friend, Dr. Henry Wurtz, of New York, who in 1865 described the mineral to which he gave the name grahamite, and has contributed largely to our exact knowledge of the hydro-carbon compounds, and who, I hope, may be induced to give this novel bitumen the chemical investigation it requires.—*Engineering and Mining Journal.*

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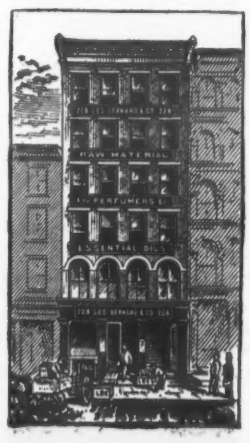

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Fertilizer Materials in Connecticut.

Bulletin No. 100 has just been issued by the Connecticut Agricultural Experiment Station. The substance of this bulletin may be briefly summarized as follows:

1. Sylvanit is a potash salt containing more potash than kainit and consists of sulphates and muriates of potash and soda, the muriates preponderating, so that it cannot fairly be called a "sulphate of potash."

2. a. Some of the samples of ashes analyzed this year were notably deficient in potash.

b. Ashes from household fires in New England as a rule contain more potash and phosphoric acid than Canadian or Western ashes.

c. A large part of ashes, leached as well as unleached, consists of carbonate of lime, which may benefit land in three ways:

First—It binds loose soils and makes them hold moisture, and on the other hand makes clay soils less stiff.

Second—It corrects "sourness" in the soil, caused either by soluble iron salts or mineral acids.

Third—It favors nitrification.

d. Hence the value of ashes never wholly, nor always chiefly consists in the plant food which they contain.

e. It is possible that a heavy application of unleached ashes might injure a heavy clay soil by reason of the alkali in them.

3. a. The analyses of seventy-six mixed commercial fertilizers are given in this bulletin. In 27 of them the percentage of one ingredient is below the minimum quantity guaranteed by the maker. In 12 others two ingredients are deficient, and in 5 others all three—nitrogen, phosphoric acid and potash—are deficient as compared with the guaranty.

b. The average percentage difference between cost and valuation this year has been 19·1 for superphosphates and guanos and 13·4 for special manures, which is lower than in any year since 1884.

SYLVANIT.

This is a product of the Stassfurt potash industry which is used by manufacturers of mixed fertilizers and may be offered in the retail trade. Like kainit it is offered as a "sulphate of potash," but like kainit also, it cannot properly be regarded as such, for it does not contain enough sulphuric acid to combine with all the potash present, and moreover, contains between three and four times as much chlorine as sulphuric acid. A sample drawn from a single bag in Now York city had the following composition:

Water	7·25
Potash	16·65
Soda	27·10
Lime	2·08
Magnesia	3·37
Sulphuric acid	11·06
Chlorine	41·35
Matters insoluble in water	·74
	109·60
Deduct oxygen equivalent to chlorine.	9·34
	100·26

Sylvanit contains rather more potash than kainit and consists of sulphates and muriates of potash and soda, the muriates preponderating.

UNLEACHED WOOD ASHES.

Large quantities of unleached wood ashes are now brought into Connecticut yearly from Canada and the northwestern states and are sold for from $11 to $15 per ton in car lots.

Ashes vary a good deal in composition, and some of the samples received this year are notably deficient in potash.

The following data show the average quality of ashes, 91 samples of unbleached wood ashes analyzed by Dr. Goessmann, of Massachusetts, between the years 1868 and 1889 (Rep Mass. Ex. St., 188e, 202 (and Bull. 33), had the following average composition:

	Average.	Maximum.	Minimum.
Potash	5·5	10·2	2·5
Phosphoric acid	1·9	4·0	·3
Lime	34·3	50·9	18·0
Magnesia	3·5	7·5	2·3
Insoluble matter	12·9	27·9	2·1
Moisture	12·0	28·6	·7

16 analyses made at the Connecticut Station between 1877 and 1889 had the following average composition:

	Average.	Maximum.	Minimum.
Potash	5·3	7·7	4·0
Phosphoric acid	1·4	1·8	1·0

The ashes from household fires in New England appear to be richer both in phosphoric acid and potash. 15 analyses, 13 of which were made by Professor Storer, of the Bussey nstitution, show the following average composition:

Potash	9·63
Phosphoric acid	2 32

The quality as well as the quantity of ashes from a given weight of wood depends very much on the kind of wood as well as on its freedom from dirt, etc.

A valuable series of analyses recently made at the Georgia Experiment Station illustrates this. According to the analyses, 10,000 pounds of several different varieties of wood, [exclusive of bark and having a uniform water content], contained the following quantities of the ingredients named. The samples were selected from trees growing as nearly as possible under like conditions and of medium age.

The facts that these analysis are of the wood only, bark being removed, that the bark contains much less of these ingredients than the wood, and that these ashes were pure—free from all sand or earth as well as carbonic acid—will expain why the percentages are so much higher than are found in analyses of ashes in market.

Leached and unleached Canada ashes have approximately the following percentage composition:

	Unleached ashes.	Leached ashes.
Sand earth and charcoal	13·0	13·0
Moisture	12·0	30·0
Carbonate with soda hydrate of lime	61·0	51·0
Potash [chiefly as barbonate]	5·5	1·1
Phosphoric acid	1·9	1·4
Other matters by difference	6·6	3·5
	100·0	100·0

It appears from this statement that more than half the weight of both leached and unleached ashes consists of lime, partly as hydrate but chiefly as carbonate; the same material chemically as chalk or limestone but finer and so likely to be quicker in its action.

It has long been known that chalk or limestone may benefit both very heavy and very light lands making the one looser in texture and less apt to puddle and the other closer and more compact. It does this in the one case by separating the particles of sticky clay and in the other by filling up the interspaces of a coarse soil. A writer on agriculture in the early part of the last century says of chalk, "it causes great fertility especially on such lands as are apt to lose the riches of dungs laid on them, and to forget in a little time that they have had any kind and indulgent benefactor. Here chalk is of excellent use to drive away such ingratitude, having a retentive quality to enclose and stay the salts."

It needs to be borne in mind that potash or soda lye binds a clay soil making it heavier, more tenacious and cloddy than before, and it may be that on this account a heavy application of unleached ashes to a clay soil would either not help it at all or even damage it, while on light soils unleached ashes would be more beneficial than leached ashes. This favorable action on light soils has made ashes popular in this State where our soil is for the most part light and sandy. They "keep the soil moist," as the saying is, that is by filling up the pores and compacting it, the soil water is made to rise more readily in it from the subsoil bringing plant food with it and preventing drought.

Besides this action of ashes which is in large part at least mechanical, they also tend to correct "sourness" of the soil. In most cases this is not due to free acid but to the presence of soluble iron salts which in undue quantity are poisonous to plants and in smaller quantity show that the oil is stagnant, and needs aeration. Ashes precipitate these salts and open the soil that contains them to the air, by making it looser in texture.

When potash salts have been used in large quantities and the potash has been largely taken up by a rapidly growing crop as tobacco, leaving most of the acid with which the potash was combined in the soil, ashes or lime may profitably be used to neutralize it. Our best tobacco growers use stone lime or cotton hull ashes largely on their tobacco land with excellent results.

A third way in which ashes benefit land is in promoting nitrification; that process by which the more or less inert nitrogenous matters in the soil, are made to yield nitrates from which our field crops obtain most if not all their nitrogen supply. This process is in some way connected with the life of low organisms, which are invariably present in fertile soils. Nitric acid can only be produced, however, when carbenate of lime is present to supply a base with which the acid may combine, and a soil mildly alkaline is the one most favorable to the growth of these organisms and the formation of nitrates.

Such is, in brief, our present knowledge regarding the action of ashes. It is clear that the quantities of potash and phosphoric acid present do not wholly measure the value of ashes nor does it pay to buy them simply to supply a deficiency ot these two things in the manure. The quantities of potash and phosphoric acid in a ton of ashes costing $12 to $15, can be bought in the form of muriate of potash and superphosphate of lime for $8 or $9. But ashes temper certain soils making them easier to work, moister, and more retentive of manure, correcting "sourness," promoting the solution of plant food in them and so preparing the way for the use of fertilizers which directly applied might be wasted. To accomplish these ends ashes have to be used in considerable quantity and probably a single heavy dose would help more than the same quantity applied in fractions through three or four successive years if the object is to change the mechanical condition of the soil strikingly.

Recent Patents.

417,386. DISINFECTING CAKE OR TABLET. Issued Dec. 17, 1889.

Claim.—A composition of substances, forming an absorbing and disintegrating solid, comnosed of plaster of paris and flowers of sulphur, substantially in the proportions and for the purposes specified.

417,492. PROCESS OF PREPARING LOGWOOD EXTRACTS. Issued Dec. 17, 1889.

Claim.—1. The within-described improvement in the treatment of the extractive matter of logwood to increase its dyeing power, the same consisting in subjecting a solution of such matter to the action of free chlorine—that is, chlorine uncombined with other matter, as a gas or in solution, substantially as described.

2. The formation of hæmatein from logwood extract or from hæmatoxylin by treating a solution of the same with chlorine gas or a solution of free chlorine, substantially as described.

NOTICE
To the Trade.
R. H. McDonald Drug Co.,
PROPRIETORS.

PRICE LIST:

"Dr. Walker's" California "Vinegar Bitters," old and new style, - $8.00 per doz., $96.00 per gross,

Less Ten per cent. on orders of One Gross.

We allow freight on orders of 1 gross.

Odora Preparations.

Bath Powder, 8 ozs.,	$4.50	per doz.
" " 16 ozs.,	$9.00	"
Shampoo Powder,	$2.00	"
Face Powder, white or flesh,	$2.00	"
Tooth Powder,	$2.00	"

Sea Salt Soap.

$2.00	per doz.
$21.00	per gross.

The above goods are all sold through our selling agent, Mr. C. N. Crittenton, 115 Fulton St., New York City, to whom we request the trade to address all orders.

R. H. McDonald Drug Co.

NEW YORK, Nov. 27, 1889.

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Celebrated
ESSENTIAL OILS
LEMON, BERGAMOT and ORANGE.

FOR SALE BY ALL THE DEALERS AND WHOLESALE DRUGGISTS.

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LIEBMAN & BUTLER,
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FINEST GUARANTEED GENUINE ESSENTIAL OILS:
LEMON, BERGAMOT, ORANGE.
Shipments of this old established and responsible house, may be relied upon to prove as represented.

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Manufacturing Chemists,

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SUBNITRATE BISMUTH.
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AND A GENERAL ASSORTMENT OF

Pharmaceutical, Photographic & Technical Chemicals.

Eastern Agents, SCHOELLKOPF, HARTFORD & MACLAGAN, Limited.
3 Cedar St., NEW YORK. 103 Milk St., BOSTON.

BORAX and BORACIC ACID.

ALL GRADES.

CALIFORNIA MEDICINAL HERBS AND BARKS as follows:
Cascara Sagrada, Yerba Santa, Crindelia Robusta Damiana.
THE CHEMICAL IMPORTING & MFG. CO., 23 Cedar St., New York.

Jarrow Chemical Company,

NEWCASTLE ON TYNE.

Bleaching Powder, Caustic Soda, Sal Soda,
Carb Soda Crystals, Soda Ash, all tests, Bi-Carb Soda.

Edward Hill's Son & Co., Agents,
25 & 27 CEDAR STREET, NEW YORK.

WING & EVANS,

Commission Merchants,
54 WILLIAM STREET, NEW YORK.

Soda Ash, Sal Soda, Caustic Soda, Bleaching Powders.

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SOLVAY PROCESS CO.
C. ALLHUSEN & SON.

JAMES LEE & CO.

COMMISSION MERCHANTS,
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IMPORTERS OF

Soda Ash, Caustic Soda, Sal Soda, Bleaching Powder, Salt Cake, Oxide Manganese, Chloride Manganese, Potash Alum, Sulphate Morphia, Carbonate Potash, Hyposulphite of Soda.

SOLE AGENTS IN THE UNITED STATES FOR

Charles Tennant & Co.,

Edward Hill's Son & Co.,

25 and 27 Cedar St., New York.

Caustic Soda,
Bleaching Powder,
Soda Ash,
Carbonated Crystals,
Sal Soda
Bicarb Soda,

Caustic Potash,
Carbonate Potash,
Chlorate Potash,

ARSENIC.

Cocoanut Oil Ceylon.
Cocoanut Oil, Cochin.
Palm Oil,
Citronella Fisher's Brand.
Cookson's Ven. Red,
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ESSENTIAL OILS,

LEMON, BERGAMOT AND ORANGE, GUARANTEED PURE.

PURE ALKALI.

Manufactured by the Ammonia Process.

This Alkali contains 58 per cent. of Alkali or nearly 99 per cent. of Carbonate of Soda. It is the most economical form of Soda for Manufacturers of Soap, Glass, Paper, Wood Pulp and Colors, and for Printers and Bleachers.

CRESCENT BRAND TRADE B.M.&C.o MARK.

MANUFACTURED BY

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LIMITED,

NORTHWICH, ENGLAND.

AND

SOLVAY PROCESS CO.,

SYRACUSE, NEW YORK.

CRESCENT BRAND TRADE B.M.&C.o MARK.

TRADE MARK

THE SOLVAY PROCESS CO. will make by this same process an Alkali adapted for Window Glass Makers testing 48 per cent.

WING & EVANS, 54 WILLIAM STREET, NEW YORK

Sole Agents for the United States.

WING & EVANS have appointed as exclusive Sale agents,
essrs. LINDER & MEYER, BOSTON, for New England States, who are prepared to contract for future delivery.

"A better business than usual at the close of the year was done in the fortnight proving as we believe, that the deliveries are the result of a largely increased consumption in the ordinary channels which is likely to be increased in agricultural use in consequence of its lower cost. Our spot market has hardened with a steadily reduced supply, and it has helped the nearby parcels on the way. The demand to arrive is active, particularly for the earlier shipments, but for late shipments the case is different. At last the nitrate magnates in London have realized that consumers will not accept their domination of value with an unstinted production. When the shipments to Europe in November was announced at 120,000 tons on a steadily augmented supply, the buyers cried a halt. Now, we hear the cry of producers, or rather their agents in London, resoluting a decrease of production. If, instead of resolving, an actual curtailment had been effected two or three months ago if it were possible, the producers would have been spared the distress of which the resolution is an obvious sign. If a wiser course had been pursued, such as adopting means for increasing the consumption in this country, which offers a splendid field for their effort, the producers would have a large help in using their improved method of production. The effect of the London resolution has been stated by the bulls and the bears have yet to be heard from."

Cream Tartar—Rather more inquiry has been noted since we last wrote, and a very fair jobbing business has transpired. There have been no further alterations in prices, but in view of past experiences dealers are loth to say that there are not any in contemplation.

Ammonias, Potashes and Fertilizing Chemicals.

Dealers, without exception, report a continuation of the excessive dullness previously noted and it is the universal opinion of the trade that the market will fail to show any evidence of activity until the new year has set in. There have been no alterations in prices.

Muriate of potash.—The price on contracts for delivery next year is now $1.77½ for New York, the original time limit having expired last Saturday. Dealers state that the contracts so far made, do not come up to the quantity placed at this time last year, although a fair business has been accomplished. Parcels on spot and to arrive are quoted at $1 80 and it is said that nothing can now be expected to arrive until April or May as advices from abroad state that the Elbe river is frozen over.

Double Manure Salts—It is said that the contracts accomplished has been very satisfactory, several thousand tons having been placed previous to December 21. It is difficult to make a comparison with last year as no definate date was fixed, at that time at which prices would advance. They are now quoted at 2½c higher for all deliveries, as is also high grade sulphate of potash.

Kainit has not changed from a week ago. No price has yet been named on contracts for delivery next year, but they will undoubtedly be given to the public before a great while.

The Chemical Industry in Belgium.

The situation of the chemical industry in Belgium must be termed unfavorable as regards the returns obtained. English competition and French protection duties prevent any improvement, though the low prices of products and home competition are sufficiently keen to compel manufacturers to content themselves with low profits, and to seek larger returns by the production of greater quantities of the various matrials.

Le Blanc's soda process is now only carried out in one works, and there simply to work up their surplus sulphate, which they are prevented from selling as such by a syndicate of Belgium manufacturers for the limitation of the sale of sulphate. This combination cannot force a rise in price, because in the event of this the demand would be completely supplied with French goods. The price of calcined sulphate of soda varies between 3 frs. and 4½ frs. (2s. 4½d. to 3s. 6½d.) per 100 kilos. It is obvious that no great profit can be gained with these prices, even when sulphuric acid at 130° Tw. is calculated at 3 frs, and coal costs at the most 10 frs. (7s. 11d.) per 1,000 kilos., since a rise in sulphate is usually accompanied by a fall in crude hydrochloric acid. The production of sulphate amounts to about 15,000 tons, which is all used in Belgian glassworks for the manufacture of crude glass, window glass and glass utensils.

The numerous attempts to convert sulaphte of soda into silicate in the process of glass making and recover the sulphuric acid have remained without practical result, and even if successful would probably not pay, owing to the low price of sulphuric acid. Mechanical sulphate furnaces will scarcely be able to make way in Belgium, at all events until the contamination of the sulphate by iron is prevented, as this greatly diminishes the product for glass making. The demand for soda ash is completely supplied by English soda and Solvay soda from the various Belgian works. Even with a cost price of 3 frs. per 100 kilos. sulphate, less the sale price obtained for the hydrochloric acid, it is almost impossible to compete with the LeBlanc soda, while the manufacturers are also prevented from taking it up by the high price asked for rotating black ash furnaces. The only advantage which Belgium could have over England in the manufactnre of LeBlanc soda is cheapness of labor, a day's wages amounting to between 1·75 and 2·5 frs (1s 4½d to 1s 11¾d.)

The manufacture of hydrochloric acid is receiving much attention, especially the condensation of the acid. The quality is, however, on the average poor, partly because of the amount of arsenic in the sulphuric acid and partly because the acid contains 3 per cent. of sulphuric acid. The usual yield is about 200 per cent. of hydrochloric acid at 30° Tw. in the salt used. The salt employed for the manufacture of the better qualities of sulphate is English salt (from brine), and the sulphate obtained contains 97 per cent. of Na_2SO_4. The lower qualities of sulphate are made from French rock salt, from Lorraine, containing only about 92 per cent. of salt and 3 to 3½ per cent. gangue, the sulphate produced being of 92 per cent. strength. The decomposition of the salt is always very complete, more than one-half per cent. of unaltered salt being never found in the sulphate, since this is very detrimental in glass making. In spite of the French duty of 2 frs. per 100 kilogs. of hydrochloric acid, about 100,000 tons are sent to France, the largest portion of which is used in Paris itself, reaching a price of 5 to 6 frs. per 100 kilogs.

A smaller quantity is sent in bottles to Germany to be employed for the carbonization of artificial wool and for galvanizing or tinning iron wire or sheet. The price of hydrochloric acid in Belgium varies from 2 to 3 frs. The quantity of arsenic in it is usually considerable, on account of the arsenical pyrites employed, and varies between ·02 and ·04 per cent. A large proportion of the acid is employed in the country itself by numerous paper manufacturers for the preparation of chlorine for bleaching and in the production of bleaching powder.

The manufacture of bleaching powder is only carried out on the large scale in one works, the Weldon regenerative process being employed. As long as the sale price of hydrochloric acid is more than 2 frs., profitable work cannot be thought of without the aid of Weldon's process, and the manufacturers are deterred from introducing it through fear of the magnesium chloride process, which is continually being brought to the front, and which makes the expensive Weldon plant appear to be a dead loss. English bleaching powder rules the market, but the Deacon process in Germany appears to be competing with it severely in Belgium.—*Chemiker Zeitung.*

Process of Obtaining Chlorine.

If magnesia is treated with hydrochloric acid or ammonium chloride at a certain temperature, in the first case magnesium chloride or oxychloride and steam are formed, and in the second case magnesium chloride or oxychloride and steam and ammonia gas. In order to obtain chlorine this magnesium chloride or oxychloride is heated to a higher temperature and oxidized with dried air. By this method all of the chlorine is set free, but not without being mixed with a large amount of hydrochloric acid gas. Treating magnesia with hydrochloric acid or ammonium chloride a considerable amount of the steam which is formed by the reactions is absorbed by the magnesium chloride or oxychloride formed, and this absorbed quantity of water being evolved in the treatment at a higher temperature by air causes the retrograde formation of hydrochloric acid, which quantity varies

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Analysis of Oils, Paints, Drugs, Chemicals, Fertilizers, Waters and natural and industrial products of every description. Assays of Ores, Minerals, Metals, etc.
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OUR SPECIALTIES:
BYK'S PYROGALLIC ACID,
PERMANENT HYDROQUINONE,
SULPHITE SODA IN CRYSTALS,
HYPOSULPHITE SODA, German,
BENZOIC ACID from Gum Benzoine.
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VICTOR REMEDIES CO.,
MANUFACTURERS OF
Victor Liver Syrup, Victor Pain Balm,
" Infant's Relief, " Lung Syrup,
" Liniment, " Liver Pills,
" H.&C. Powders, " Poultry Powder,
Correspondence solicited with the Jobbing and Export Trade.
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Established 1836.
CROTON LABORATORY,
OFFICE, 26 CEDAR ST., N. Y.
J. B. Hendrickson
IMPORTER AND REFINER OF
Crude Saltpetre and Nitrate of Soda
Best qualities always on hand at lowest cash price.

Brooklyn Sulphur Works,
MANUFACTURERS OF
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AND FLOUR SULPHUR,
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163 FRONT STREET, NEW YORK.
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HAMILTON H. SALMON & CO.,
Sole Agents of the United States & Canada, of the Sales Syndicate of the
MURIATE OF POTASH
Manufacturers of STASSFURT, GERMANY.
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We commend this article to manufacturers and dealers as being the best and most available source of Potash existing, as we guarantee it to contain not over ½ per cent. Chloride of Magnesium—and analyzing from 80 to 98 per cent. of Muriate. All genuine Syndicate goods are put up in uniform bags of 224 lbs. each net weight, and to each bag is attached a leaden Seal marked "U. S. Sole Agency, H. H. S." on one side, and "Verkaufs Syndicat Stassfurt" on the reverse. Orders are solicited for direct shipment, to any sea port, or for present or future deliveries in New York.

NON POISONOUS COLORS
FOR CONFECTIONERS.
Manufactured by
ATLANTIC CHEMICAL WORKS.
MAAS & WALDSTEIN, Proprietors,
44 Trinity Place & 81 Greenwich St., NEW YORK.

JOSEPH BINNS,
Successor to GEO. BINNS Sr.,
Manufacturing Chemist,
Aqua Ammonia Spirits of Nitre, Epsom Glauber Salts, Muriatic
Nitric and Acetic Acids, Aquafortis &c
Office, 183 PEARL STREET, Cor. Cedar St., NEW YORK. Works, Williamsburgh.

"THE SKULL" BRAND
CAUSTIC SODA.
MORT, LIDDELL & CO., Widnes, England.
Registered.
Agents at Chicago, Geo. R. Jenkins & Co., successors to Kenly & Jenkins, 14 Franklin St.
Registered.

MASON, CHAPIN & CO.,
IMPORTERS AND JOBBERS.
Sole receivers for United States and Canada of the following Brands
Bleaching Powders:
N. Mathieson & Co.— Pilkington & Co.— Hay, Gorden & Co. — Wigg Bros. & Steel—"Anchor" Brand
141 Milk Street, BOSTON. PROVIDENCE, R. I. 58 Pine St., NEW YORK

PHILADELPHIA COPPERAS WORKS,
10th and Dickinson Streets, Philadelphia, Pa.
Lessees of Mr. Wetherill Peterson's "CRESCENT CHEMICAL WORKS," are now prepared to furnish Copperas in any quantity to the trade. Address PHILADELPHIA COPPERAS WORKS, Lock Box 1136, Philada., PA.

from 20 to 40 per cent. of the total quantity of the chlorine.

A new process for preventing this hydrochloric acid formation consists in mixing with the magnesia before it is treated with hydrochloric acid or ammonium chloride a certain amount of fixed alkali chloride, preferably chloride of potassium or sodium, or a mixture of the two. The quantity of the alkali chlorides can be varied considerably. Five to ten per cent. of the quantity of the magnesia is sufficient. If this magnesia, mixed with the alkali chloride, is treated in the way described, no water, or very little of it, is absorbed by the magnesia, and during the oxidation all the chlorine is obtained as such, and free, or nearly free, from hydrochloric acid.

In order to carry out this process in a practical way, the magnesia is ground with a solution of a certain strength of one of the fixed alkali chlorides, or a mixture of the two—that is, with a solution of the required amount of fixed alkali chloride in a sufficient quantity of water to form with the magnesia a plastic mass—by which means the magnesia is intimately mixed with the alkali chloride. This mass may be formed in any known way into balls, lumps, blocks, etc., and dried; but it is advantageous for this purpose to add to the magnesia a certain amount of agglomerating substance, such as about 5 to 10 per cent. of china clay, which is inert to the reactions in this process. After the finished oxidation the magnesia is ready for renewed treatment with hydrochloric acid or ammonium chloride, as the fixed alkali chloride remains unaltered and retains its activity continually.

In order to obtain a continuous manufacture of chlorine from hydrochloric acid gas a mixture of hydrochloric acid gas and air is passed at a suitable temperature—preferably 450° to 550° centigrade—over or through the balls, blocks, etc., of the magnesia and alkali chloride, as described before. The decomposition of the hydrochloric acid is very much more complete than when using certain copper salts for the same purpose.

Almost any plant now used for treating solids with gases at about the temperature above mentioned will suit this process. The ordinary Deacon chlorine plant is recommended as being as useful for the continuous process.

Throughout this specification mention has been made only of alkali chlorides. It is obvious, however, that if any alkaline salt easily decomposed by hydrochloric acid or ammonium chloride, so as to form the alkali chloride—such, for instance, as the hydrate, carbonate or even fluoride—were used, they would soon be converted into the chloride, and would then be as effacious as if the chloride were used originally.—*Paper Trade Journal.*

417,666. PAINT COMPOSITION. Issued Dec. 17, 1889.

Claim.—The herein-described compound adapted for miving with liquids, oils, or dry pigments, or for use alone, the same consisting of blue vitriol, copperas, sal ammoniac, sal soda, alum, sulphate of zinc, sugar or lead, sulphate of magnesia, chloride of zinc, borax, quicklime, and common salt, the above ground and dissolved in water and combined in substantially the proportions specified.

Native Wyoming Soap.

BY HERMAN WESTPHAL, PH. G.

This mineral, which is known locally under the name of "Native Wyoming Soap," occurs in the Blue Ridge, 30 to 40 miles west and southwest of Soudance, Wyoming Territory, at an elevation of about 5,000 feet.

It is found in two distinct forms. 1. The wet variety, which occurs in sink holes, or in the neighborhood of springs, and covers, probably, an area of several hundred acres. It forms a thick very tenacious pasty mass, about the consistency of butter. Its color is light yellowish gray. Taste slightly saline, clay-like. Odor argillaceous. Moistened between the fingers with a little water it feels like soap or some greasy substance; hence its name. This soapy feel is probably due to the extreme fineness of the silicates which it contains. In hot weather, the edges of the sink holes become hard and brittle, and on some places show an efflorescence of fine crystals of magnesium sulphate.

These holes, which seem to be almost bottomless, at times become very annoying to the ranchers, as cattle frequently get into them and unless discovered in time and pulled out are sure to perish, as it is impossible for them to free themselves.

2. The dry variety occurs underground in veins like coal. It is hard and dry, and looks very much like chalk; the color is somewhat darker, varying from yellowish white to dirty greenish yellow. On addition of a little water, however, it is converted into the soft variety as found on the surface of the earth. It appears probable that the wet variety is formed by springs running over beds of dry soap, washing it up and in time accumulating it in large quantities.

It is used by cowboys and ranchers who live in the vicinity as a substitute for soap, and for removing grease by absorption. They also use it for making "hard water."

Five grams of the soap exposed to the atmosphere for several weeks, at a temperature of about 24° C, lost 41·20 per cent. of moisture. It had become a very hard and brittle mass varying from dirty white, grayish green to orange yellow. Taste and odor were unaltered; ir adhered to the tongue, and when cut with a knife exhibited a very smooth and shining surface. On ignition, the wet soap lost 53·30 per cent. while the air-dry soap lost 12·10 per cent. corresponding to 41·20 per cent. on exposure. The air-dry soap reduced to an impalpable powder gave the following composition on analysis:

	Per cent.
SiO_2	61·08
Fe_2O_3	3·91
Al_2O_3	17·12
MnO	traces.
CaO	2·96
MgO	1·82
Na_2O	0·20
SO_3	0·88
H_2O	12·10
Total	99·87

Am. Jour. Pharm.

JOS. C. GAMBLE & SON,

ST. HELENS, Lancashire.

MANUFACTURERS OF

CHLORATE OF POTASH,
CHLORATE OF BARYTA
CHLORATE OF SODA,
SULPHIDE OF SODIUM,

SODA ASH, CREAM CAUSTIC SODA,
BLEACHING POWDER.

CROWN FILLER.

Natrona Bi-Carbonate of Soda.

(ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz.: Kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt, and other impurities, render NATRONA BI-CARB NEARLY TASTELESS, and, being bolted through the finest bolting-cloth, insures the finest state of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA Bi-Carb Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

NATRONA BI-CARB. SODA IS UNEQUALLED BY ANY OTHER BRAND OF ENGLISH OR AMERICAN MANUFACTURE.

Penna. Salt Manufacturing Co., Natrona Chemical Works, PHILADELPHIA, PA

BILLINGS, CLAPP & CO.,

Manufacturing Chemists,

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FINE CHEMICALS.

In addition to our Chemical list we make a full line of

Pharmaceutical Preparations,
Fluid Extracts,
Elixirs, Syrups,
Medicinal Wines, &c.

NEW YORK OFFICE, 35 PLATT STREET.

ROBERT S. CARR,

Hamburg, Germany,

SOLE AGENT OF THE

KAINIT SYNDICATE

FOR THE UNITED STATES AND CANADA.

Admiralitatstrasse 52, Hamburg.

Parties wishing to purchase **KAINIT** are Cautioned to apply only to my Agents at the following ports, or to the Houses designated by them:

Charleston, S. C.—Street Brothers.
Baltimore, Md.—Dresel, Rauschenberg & Co., Agents.
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Brunswick, Ga.
Jacksonville, Fla. } A. Minis & Sons, Savannah, Ga.
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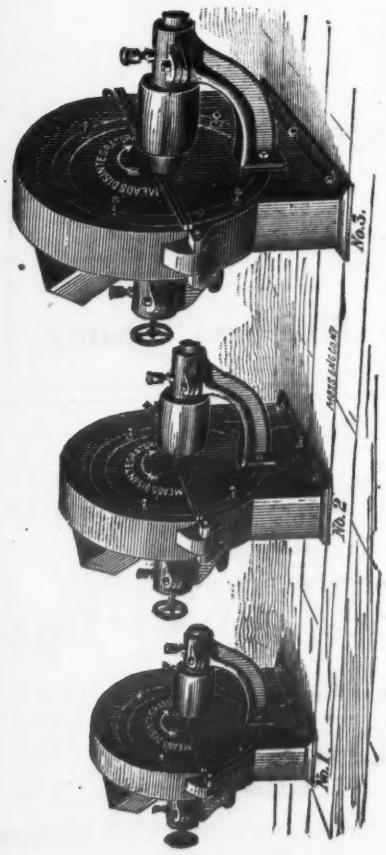

MEAD'S PATENT DISINTEGRATOR.

Patent Wet and Dry Grinding Cylinder, Iron Plate Mills, Chasers, Cutters,

and Other Crushing and Grinding Machinery.

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NEW YORK.

PURE ALKALI.

Manufactured by the Ammonia Process

BY

TRADE B.M&C.O MARK.

BRUNNER, MOND & CO.,

LIMITED.

NORTHWICH, ENGLAND.

TRADE B.M&C.O MARK.

THIS ALKALI contains **58[80] deg. Alkametrical Test and is the most Economical form of Soda** known for the manufacture of **Glass, Soap, Paper, Wood Pulp. Starch or Colors.** And for **Cleaning Wool and Bleaching.** In fact, for any purpose where **Soda in its purest form** is required.

Its strength is uniform, and quality always the same.

The following is the Chemical Analysis of this Alkali:

Carbonate of Soda,	**98.72**	**per cent.**
Sulphate of Soda,	**0.20**	"
Chloride of Sodium,	**0.54**	"
Carbonate of Lime,	**0.13**	"
Carbonate of Magnesia,	**0.04**	"
Peroxide of Iron,	**0.01**	"
Alumina,	**0.01**	"
Silica,	**0.09**	"
Moisture,	**0.26**	'
Total,	**100.00**	

We are in constant receipt of BRUNNER, MOND & CO.'S manufacture at New York. Boston, Baltimore and New Orleans.

We have appointed as Exclusive Sales Agent for their district,

LINDER & MEYER, Boston, for New England States.

We are prepared to make forward contracts for delivery monthly.

WING & EVANS,

54 WILLIAM STREET, NEW YORK,

SOLE AGENTS FOR THE UNITED STATES.

DYE MARKET

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect pay an advance on these figures.*

The prices current will be found on page 50.

TUESDAY EVENING, Dec. 24, 1889.

The general market for dyes and dyestuffs has been without feature during the interval since we last wrote, and the attitude of buyers has been much the same as in previous seasons, namely, that they have simply supplied their actual and pressing needs, in view of the rapid approach of the close of the year There have been no radical changes in quotations.

Albumen.—There has been some little business doing in blood and several sales of very fair dimensions are reported from the South. Egg has been in moderate request, while the prices of both kinds are unchanged.

Aniline colors have sold in the usual way at previous figures, the demand having been rather light in conformity with the customary course of the market at this season.

Alizarine has ruled without feature and the limited demand has been supplied by manufacturers in the ordinary matter-of-fact way. Values continue easy and in buyer's favor.

Bichromate of Potash.—The call for stocks has been rather light, but the fact has occasioned little comment, as this circumstance usually prevails at this season. No changes in price can be noted. Bichromate of soda has ruled quiet at previous rates.

Cochineal has sold in a small way, the market having continued to rule absolutely without feature. Previous prices are quoted in all instances.

Cutch—There is more interest manifested in the market than for some time and whether the improvement which was recorded last week and which is still evident, will continue is an open question. There is the usual division of opinion, some claiming that without doubt the market will further advance, while others are given to regard it as a flurry, to be followed by a decline to say 5c. At present, supplies are quoted at 5¼@5⅜c and we hear of sales of say 1,600 bales, spot and to arrive, at prices within the range. There is a continued firm feeling, however, and no present indications of a break.

Divi Divi—The market seems to have been rather quiet during the week, and beyond the sale of some 10 tons Curacoa at $35, which we are informed was not of prime quality, we can learn of no business of a special nature. Spot parcels are quotable at $37 50.

Dyewoods—The stick wood market has been without special feature, and considering the lateness of the season, importers regard the sales of wood as satisfactory. The cargo by the Try Give was sold previous to arrival and the cargo per Sagamore comprising 450 tons Port de Paix, and that by the Winnie Laurie have also been placed, as has also the 450 tons Gonaives per the Lillian Woodruff: It is said the cargoes have been placed at full figures and that no concessions have been made in order to accomplish sales. The stock on dock has been reduced to some 2,400 tons, said to be the lowest supply available within a year Dyewood extracts have been in quiet request and prices show no improvement, as the policy of cutting continues to be carried out by the makers.

Gambier—There has been a trifle better inquiry but no improvement in the matter of prices can be noted, sales in a jobbing way being given us at 5¾@6c. According to the latest cable advices it will cost about 6c to land stocks here, and this is the only item of interest noticeable.

Indigo—The spot demand continues rather quiet, previously reported reasons being given for the apathy of buyers. Recent cables place the total quantity out of the market at 67,000 maunds, the total shipments to America as 8,800 chests and state that the market is from 8 to 10 R's higher and that American houses are operating to a moderate extent. There is nothing of particular interest noticeable in the market for Manilas and Madras with the exception that dealers are quoting a trifle lower range on the latter, 40c now being the inside figure.

Nutgalls—Aleppo galls have been taken in the usual way and the recent arrival of 85 cases, we are informed, were sold previous to reaching this port. There is only a limited quantity of China galls here and those in the market, are quoted at extreme figures, but as buyers do not look upon these rates with favor, and are not in special need of supplies at the moment, the trading has been quiet. Quotations are nominally advanced.

Prussiate of Potash—The American article has continued to go into consumption in a moderate jobbing way, with prices unchanged. Dealers in the foreign product state that values are hardening and say that an advance, early in the new year, would not surprise hem. The demand has been fair.

Starch—The demand has been fair considering the season and dealers also report a moderate movement in corn for export. Prices continue low with no special features noticeable.

Sumac—Sicily is unchanged, with jobbing sales reported on spot at $63@65. Virginia is difficult to quote as the views of holders are somewhat diversified. Recent advices from Virginia quote the article at $55 delivered on wharf at New York. There has been considerable received during the week, and buyers assert that supplies have been offered them at lower prices than have been quoted for some time.

Tin crystals have been in moderate jobbing request at former quotations, with the market bare of features of interest.

Improvements in the Manufacture of Starch.

An interesting paper was read before the "Vereins der Starke-Interessenten Deutschlands," by Saare, on the "Difference in Quality of Moist Starches." The chief impurities found are fiber, sand, and remains of the pulp water. The water varied from 47·5 to 52 per cent., the average being 48·5 per cent. The impurities ranged from 0·1 to 1·5 per cent., average 0·5 per cent. Sand averaged 0·22 per cent. Fiber was found from 0·01 to 0·3 per cent., average 0·15 per cent. The impurities soluble in water varied from 0·08 to 0·2 per cent., mean, 0·12 per cent. To prevent the introduction of sand into the finished starch, the portion which settles in the washing tank next to the axis of the stirring apparatus should be removed and not mixed with the rest of the starch. Fiber gets into the finished starch owing to imperfect arrangement of the sieves. Pulp water remains in the starch owing to bad washing. Spoilt and sound potatoes of the same origin were also examined. In the case of spoilt potatoes a considerable loss (34–40 per cent.) takes place during the preliminary washing, besides which a large quantity of slime forms on the sieves, and a dark pulp water, which ferments later on, is obtained. The starch settles very loosely, and after draining contains 67 to 70·5 per cent of water, whilst starch from sound potatoes contains an average of 48·5 per cent, water. The addition of 1 grm. of sulphuric acid per liter of water causes the starch to separate somewhat cleaner. Calcium bisulphite has a similar, but superior effect. The fineness of the sieve mesh has also some influence on the purity of the starch obtained. As regards the pulpy mass remaining after the starch has been washed out, not more than 5 per cent of the starch remaining in it should be removeable by washing, and not more than 50–60 per cent. of the dry, completely washed pulp should consist of chemically bound starch.—*Dingl. Polyt.*

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Separation of the Three Xylenes of Coal Tar.

Sulphuric acid containing over 80 per cent of H_2SO_4 still acts on meta-xylene, whilst diluted to contain about 84 per cent, its action on para- and ortho-xylene ceases. Ordinary sulphuric acid (93 to 95 per cent), which was exclusively employed by the author, acts, therefore, on meta-xylene, until in the mixture the ratio of sulphuric acid to water is about 80 : 20. In para- and ortho-xylene the action will have already ceased when the ratio attains 80 : 10. This happens, for instance, as soon as 209 grms. of sulphuric acid (93 per cent) have dissolved 100 grms. of meta-xylene, or as soon as 233 grms. of the same acid have dissolved 100 grms. of para- or ortho-xylene. Hence it follows that to a sulphuric acid saturated with meta-xylene, about one-sixth of its original weight of new acid may be added without the mixture being rendered inoperative for dissolving para- and ortho-xylene.

The crude xylene which the author worked with contained generally more than 60 per cent of meta-xylene. The treatment with sulphuric acid was carried out in a cast iron cylinder with a stirring apparatus, or for analytical purposes, in glass flasks with good shaking apparatus. The temperature during the operation rose as high as 80°. Under these conditions the sulphuric acid, if added in sufficient quantity, attacks meta-xylene only. In the selection of the raw material care should be taken to select a product which does not begin to distil under 136°, otherwise the toluene will afterwards render the para- and ortho-xylene impure. Good results were obtained with products that began to distil at 136°, and of which 90 per cent had passed over at 145°. The raw material should, before separation, be repeatedly washed with small quantities of sulphuric acid (which is to be kept cold) till it becomes not more than slightly brown.

Meta-xylene.—It follows from these remarks that the total amount of meta-xylene can be separated from the raw xylene as sulphonic acid in one operation, by means of sulphuric acid, the quantity of which is determined by a preliminary trial.

The complete removal of the meta-xylene is the object of a subsequent preparation of pure ortho-xylene. One kilo. of washed raw xylene is put into a (graduated) flask, which can be mechanically shaken during several hours' while the quantity of sulphuric acid, sufficient to dissolve 60 per cent. of meta-xylene, calculated as shown above, is gradually added. After allowing it to settle it will not often be found that too little of the substance has been dissolved—that is, that the meta-xylene present was less than 60 per cent. If the solution was normal, a further addition of one-sixth of the sulphuric acid employed will, in most cases, dissolve a few more per cents. If by this the decrease of hydrocarbon is made greater by nearly 60 per cent., the addition of sulphuric acid is, of course, to be repeated. The necessary amount of sulphuric acid roughly estimated in this manner should be controlled by repeating the experiment.

One-third of the quantity of acid thus determined is added to the raw xylene in a suitable stirring apparatus; the remainder and about one-sixth of the acid in excess is added after some time. The influx is to be so regulated that the temperature during the reaction does not exceed 80°. Under these conditions all the meta-xylene passes into solution exclusively as 1, 3, 4 meta-xylenesulphonic acid. After allowing it to settle for some time the acid is drawn off. It still contains 2 to 3 per cent of hydrocarbons mechanically dissolved; most of them separate when the acid is diluted. The mixture of acids is, by the addition of water, brought to a specific gravity of 1·4. A considerable rise of the temperature above 100° is of direct advantage, as it prevents a too early crystallization of the sulphonic acid so that the mechanically dissolved hydrocarbons can separate at the surface. At the same time the greater part of the sulphonic acids of the olefines of the raw xylene which are present in small quantities, is decomposed. The sulphonic acids of the xylenes begin to decompose only very slightly at 150°.

On cooling slowly the whole mass consolidates to a firm cake of crystals of the α-meta-xylenesulphonic acid. The mother-liquor obtained by treating the crystals in a centrifugal machine separates into two layers, a lower one containing nearly pure sulphuric acid of sp. gr. 1·57—1·6, and above it a layer of sulphonic acid for the most part still in a liquid state. From this, repeated crystallizations of α-meta-xylenesulphonic acid are obtained after destruction of the olefinesulphonic acid still present by heating, and subsequent addition of sulphuric acid.

If the pure hydrocarbon is to be regenerated from the sulphonic acid, the latter may be decomposed quantitatively with water in a boiler at 220°; under pressure. In the case of meta-xylene, a carefully-directed dry distillation of the ammonium salt is also possible, but not in the case of para and ortho-xylene. The meta-xylene is first acidulated a little with sulphuric acid, and will then give a better yield than by dry distillation of the free acid, without any other secondary decomposition except a partial carbonization. The yield by distillation of the ammonium salt amounted to 80—90 per cent.

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Para-xylene.—The remainder of hydrocarbon separated from the meta-xylenesulphonic acid is, in the same stirring apparatus, at once treated with an excess of sulphuric acid. The elevation of temperature is, if necessary, supported by indirect steam, and is to be kept for some time at 80°; the whole substance, except about 5—10 per cent., will then dissolve. The mixture of acids is drawn off, and again diluted, as in the case of meta-xylene, and left to crystallise in a cool place. The mass at once separates into two layers, of which the lower, containing the sulphuric acid, considerably exceed in quantity that of the meta-xylene, but also contains no appreciable quantity of dissolved hydrocarbons. The upper layer congulates to a pulp of needles of the para-xylenesulphonic acid, in the still liquid ortho-xylenesulphonic acid.

The para-compound crystallizes completely, and may be obtained so pure, by means of a good centrifugal machine that the hydrocarbon isolated from it melts at 5°—7°. As the sulphonic acid is deliquescent, a thick and thorough separation of these crystals is essential for the subsequent preparation of pure ortho-xylene.

Toluenesulphonic acid behaves like para-xylenesulphonic acid, is not easily distinguishable from it externally, and, in the above operation, renders the para-xylenesulphonic acid impure, if the amount of toluene in the raw xylene be considerable.

If a greater purity in the para-xylene be desired, the sulphonic acid, freed from mother-liquor by the centrifugal machine, is to be dissolved in water, and recrystallized by addition of sulphuric acid. The barium salts have not rendered any particularly good service in the separation of the xylenes. For the preparation of absolutely pure para-xylene the beautifully crystallizing sodium salt of the sulphonic acid, obtained from the calcium salt, is most preferable.

The only way of isolating the para-xylene is by decomposing it with water in the pressure boiler, where decomposition will take place quantatively; the sodium salt must previously be acidulated. A dry distillation of the acid, or of the acidulated ammonium salt, is inadmissible, scarcely 20 per cent. of the theoretical produce being obtainable.

Ortho-xylene.—The mother-liquors of the para-xylenesulphonic acid contain, indeed, all the ortho-xylene, but do not by simple decomposition, produce any hydrocarbon of sufficient purity. It is best to form first the lime salts, and to prepare the sodium salts, which, of ortho-xylene, is particularly easy to obtain in fine crystals, needing not even to be recrystallized in order to furnish, after decomposition, a pure hydrocarbon with a constant boiling point between 143° and 145° In experimental decompositions the sodium salt behaves like the para-compound. With dilute sulphuric acid or hydrochloric acid the decomposition in the pressure boiler takes place quantitatively. Dry distillation produces even worse results than with para-xylene.

The portion of raw xylene which remained undissolved in sulphuric acid consists of paraffins, and not polymerized terpenes. A hydrocarbon, with its boiling point between para- and ortho-xylene, is not present, according to the author's experiments.

After removal of the meta-xyline from larger quantities of the mixture by means of sulphuric acid, the two hydrocarbons might, with advantage, be obtained sufficiently pure for most purposes by fractional distillation with a difference of 7° in the boiling point. The raw sulphonic acids become turbid on the addition of water, not only on account of the separation of the excess of sulphuric acid, but also because, besides a few aromatic hydrocarbons, they contain mechanically dissolved olefines and the like, which separate out on dilution as mentioned under meta-xylene. If the operation were conducted with sulphonic acid only, the mechanical separation from these accompanying bodies, is to be effected, if necessary, by dilution or heating, before the preparation of the hydrocarbons can take place. If salts of sulphonic acids are used, these impurities are not taken into account.—*Chem. Zeitung.*

Decision on a Hydrogen Peroxide Patent.

This case was decided November 25, 1889, by the Supreme Court of the United States:

1. Invention—Want of Novelty.—The first claim of letters patent No. 273,569, granted to Charles Marchand, March 6, 1883, for an improvement in the manufacture of hydrogen peroxide, held void for want of patentable novelty.

2. Same—Mechanical Skill.—It does not constitute invention to stir by a well-known and simple mechanical device a liquid which had before been stirred by hand.

3. Same-Same.—The mere substitution of a revolving screw, driven from a power-shaft, for paddles operated by hand, for stirring such liquid, is not patentable.

Appeal from the Circuit Court of the United States for the Southern District of New York.

Mr. Justice Blatchford delivered the opinion of the Court.

This is a suit in equity, brought in the Circuit Court of the United States for the Southern District of New York, by Charles Marchand against Frederick Emken, to recover for the infringement of Letters Patent No. 273,569, granted to the plaintiff March 6, 1883, for an improvement in the manufacture of hydrogen peroxide.

The specification says:

This invention has reference to the manufacture of hydrogen peroxide or oxygenated water by addition of barium or calcium binoxide to an acid, (sulphuric, nitric, acetic, oxalic, hydrochloric, hydrofluoric, hydrofluosilic, and the like,) the binoxide having been mixed with water.

Heretofore hydrogen peroxide has been made by adding the barium or calcium binoxide, mixed with water, to the diluted acid, the binoxide being added from time to time in small quantities, the vessel in which the operation is conducted being set in a refrigerating medium, and the liquid being agitated or stirred to facilitate the reaction. The stirring has been performed by hand.

The present invention is based on the fact or discovery that the reduction of the barium or calcium binoxide takes place under conditions much more favorable in point of rapidity and yield when the acid to be neutralized is given a movement of rotation both vertically and horizontally by a screw or other suitable means, which at the same time creates both constant and ever-changing eddies, the said movement of rotation being imparted continuously during the addition of the binoxide.

The present invention consists, therefore, first, in imparting to the acid a movement of rotation, the time required for the chemical reaction being thereby lessened, while the reaction itself is more complete."

The specification gives a description of the apparatus which it says is preferably to be employed and forms part of the invention, in substance as follows: There is a receptacle for the acid, and a jacketing-vessel, in which the receptacle rests, for containing the refrigerant or cooling medium. There is a rotation screw and a vertical power-shaft. The acid-receptacle need not be of any particular size, but a good capacity is from five hundred to one thousand gallons. It is preferably hemispherical, but may be cylindrical, frustoconical, or of other suitable form, and it is made of or lined with material adapted to resist the action of the acid. For use with hydrofluoric acid a sheet-iron or, better, a copper vessel lined with lead may be used, or one of platinum, gold or silver, or one otherwise rendered non-corrodible. The screw is provided with helicoidal blades, ordinarily, two, three, or four in number, set obliquely on the arbor or screw-shaft. The blades are preferably pierced with holes. The screw is suspended in the receptacle, being detachably connected with the lower end of the power-shaft by two pieces, one fixed to the power-shaft, and the other to the screw-shaft, and clamped together by bolts. On the screw-shaft, above the top of the receptacle, is fixed a disk of wood or other suitable material, which catches the oil from the bearings of the power-shaft, and other foreign matters that otherwise would be liable to fall into the receptacle. The power-shaft is suspended in its bearings by suitable collars, which enable it to support the screw, and is driven from a horizontal shaft, through beveled gearing, or by other well-known or suitable mechanical means. The length of the screw-shaft is such that the blades of the screw do not in operation touch or scrape the interior of the receptacle. The jacketing-vessel is of ordinary or suitable construction. The cooling medium commonly employed therein may be placed in it. The vessel being filled with the cooling medium, the proper quantities of acid and water (say twenty parts by weight, of acid to one hundred parts of water, or other suitable proportions) are placed in the receptacle. The screw is put in motion and the binoxide of barium or calcium, in the state of a more or less thick emulsion or milk, is added in small quantities. The revolving screw imparts a movement of rotation more or less rapid to the liquid, producing eddies therein and constantly changing the material, and the chemical reaction takes place very regularly and completely. Sufficient binoxide is added to secure the complete neutralization of the acid without rendering the hydrogen peroxide too alkaline. After a certain time, which varies with the quantity of the article manufactured and the amount of binoxide employed, and during which the screw may be stopped, but is preferably kept in revolution, the production of the hydrogen peroxide is finished. It only remains to allow the matters in suspension to settle and to decant the clear liquor. If it is desired to obtain the hydrogen peroxide in a state of greater purity than results from the above, the clear liquor is subjected to special chemical treatment, which, as it constitutes no part of the present invention, is not described.

Only the first claim of the patent is involved in this suit. That claim reads as follows:

"1. The method of making hydrogen peroxide by cooling the acid solution, imparting thereto a continuous movement of rotation, as well in vertical as in horizontal planes—such, for example, as imparted by a revolving screw in a receptacle—and adding to said acid solution the binoxide in small quantities, while maintaining the low temperature and the rotary or eddying movements, substantially as described."

The answer sets up, among other defenses, that the alleged invention and patent do not contain any patentable subject matter. After a replication, proofs were taken, and, on a hearing, the court, held by Judge Coxe, entered a decree dismissing the bill, with costs. From this decree the plaintiff has appealed.

It appears from the record that the first claim was three times rejected by the Patent Office, and was then, on appeal, allowed by Examiners-in-Chief, who said in their decision:—

"In the present case, the essence of the invention resides in imparting to the liquid, while making hydrogen peroxide as above, a peculiar motion—one which cannot be given by hand—a continuous movement of rotation, horizontally in opposite directions from the center, or radially and vortically, or nearly so, according to the shape of the vessel, a vortical motion designated in German as *wirbelbewegung*, the movement of a smoke ring, making what may be termed a 'ring vortex.'"

They suggested the amendment to the specification, to make it clear that the invention was no more than in this particular art, all the other steps being old, imparting to the liquid undergoing chemical change this old motion, this motion produced, for example, by the egg-beater.

The opinion of the circuit court says:

It is not pretended that the complainant discovered hydrogen peroxide, or the method of adding barium, mixed with water, from time to time, to the diluted acid, or the necessity for stirring or agitating the liquid. Neither did he invent the obliquely-bladed screw, the hemispherical receptacle the jacketing-vessel, or any part of the apparatus described in the specification. All this was old and well known. The patent itself illustrates how extremely circumscribed was the theater of invention.

It then refers to the fact that the descriptions, in the specification, of the prior process and of the patented process are substantially the same, except that in the former the stirring was performed by hand, and in the latter it is performed by machinery.

The opinion then proceeds:

The question, then, seems to be narrowed down to this: Does it constitute invention to stir, by a well-known and simple mechanical device, what had before been stirred by hand? The complainant desired to manufacture in large quantities what had before been produced chiefly in the laboratory. He knew how hydrogen peroxide had been made; every step in the formula was familiar. A mixture that needed stirring, and a vessel provided with a revolving stirrer, were ready at his hand. He put the former into the latter. This was all. The object of agitating the liquid, while making hydrogen peroxide, is to keep the barium, which is three times as heavy as water, suspended in the acid, so that its particles may come in contact with the particles of acid. Whether they come in contact while going round, rising, settling, or remaining stationary, can make no difference. Divest the case of the air of mystery with which it is environed, and it seems simple enough. The complainant's predecessors knew that to keep the barium up in the solution they must stir it. The complainant knew this. Unlike them, however, he manufactured on a scale large enough to make it essential to employ a power-shaft. The oar-shaped sticks which formerly went round and round by hand now go round and round by machinery.

The court then refers to the contention of the plaintiff that, by the method set out in the patent, a movement was given to the acid which had never before been imparted to it in the manufacture of hydrogen peroxide, because—

"the liquid is thrown out toward the circumference of the vessel at the bottom, rises at the sides, returns to the center, and then descends, to be again thrown out at the bottom, while at the same time it is carried round and round;"

And says that this—

"being reduced to still simpler language, means that the machine will stir large quantities of the liquid more thoroughly than the hand-worked paddles."

It adds:

"The pretense that the complainant had discovered some occult and wonder working power in the motion of a screw revolving in the bottom of a tub is not sustained by the proof. Whether the contents of the tub be oxygenated water, or soap, or lye, or tartaric acid, the action will be the same. That rotary, eddying motions in liquid will result from the revolving screw, that the liquid will rise highest at the periphery of the tub, and thus have the tendency at the top to fall toward the center, were well understood operations of centrifugal force. As every device, apparatus, formula, law of nature, motion and ingredient adopted by the complainant was old, the patent must be held invalid, unless it can be said that giving to oxygenated water a well known rotary motion springs 'from that intuitive faculty of the mind put forth in the search for new results or new methods, creating what had not before existed, or bringing to light what lay hidden from vision.' (Hollister v. Benedict Mfg. Co., 113 U. S. 59, 72.) No such faculty has been tasked in giving form to this patent. There is here no sufficient foundation upon which to rest a claim which, if construed as broadly as the complainant insists it should be, practically makes all pay tribute who stir the mixture in question by machinery, and by hand also, provided substantially the same movement can be produced by hand stirring, and this seems to be a disputed question upon the proof. The complainant's claim to be enrolled upon the list of inventors is based upon propositions too theoretical and visionary for acceptance."

A careful consideration of the evidence and of the arguments on the part of the appellant (no brief having been submitted on the part of the appellee), induces us to concur in the views of the circuit court.

Decree affirmed.

Note on Adulterated Spanish Saffron.*

BY G. M. BERINGER, PH. G.

Two lots of adulterated saffron have recently come under my notice. The first was of a handsome color, excellent in odor, and brought a very high price. It yielded on incineration 40 per cent. of ash. On close inspection in was found to be an admixture of vegetable fiber of unknown origin with a small quantity of genuine saffron.

The fiber was in pieces from ¼ inch to 1¼ inches long, and upon microscopic examination proved to be the stem of a monocotyledon, most likely a species of grass. This was loaded with a calcium sulphate artificially colored, and attached thereto with some saccharine substance, most likely glucose. A small quantity thrown on water soon deposited a heavy precipitate of the sulphate, tinting the water a pinkish yellow.

A portion was taken from the centre of the can, and of this 5 gms. was carefully weighed and then carefully picked over, separating the true saffron and the adulterant. The following statement exhibits the proportion of each:

.915 gms. genuine saffron.
3·745 gms. adulterant.
·240 gms. refuse so broken as to be impossible to separate.
·1 gm. loss in handling.

5·000 gms.

From these figures it would appear that the saffron contained only about 20 per cent. of genuine saffron.

The adulterant yielded 52·7 per cent. of ash, containing considerable calcium sulphide.

The coloring matter of the adulterant was found to yield an orange-yellow solution to alcohol, and when thus extracted and the solvent evaporated was obtained as an orange-red powder, which dyed silk a bright yellow and showed with reagents the following reactions: With concentrated sulphuric acid a violet-red, on diluting the color gradually fades. With concentrated hydrochloric acid a violet-red, on diluting destroyed. With sodium hydrate the color gradually fades. With ammonium hydrate the aqueous solution produces a bright yellow color. Stannous chloride and hydrochloric acid destroyed the color. Its aqueous solution is bleached by calcium hypochlorite and precipitated as a pale yellow precipitate by lead acetate. These reactions point to the presence of some artificial non-vegetable coloring.

The true saffron in the mixture yielded 5·7 per cent. of ash, about the normal amount, and deposited no pulverulent substance on soaking in water.

A somewhat similar adulteration of saffron was reported by W. Brandes, *Pharm. Ztg.*, 1879, p. 506, who reported 50 per cent. of stems obtained from a plant belonging to the Gramineæ or Caricineæ, probably from Cavex capillaris, the stems being loaded with calcium carbonate previously colored with cochineal.

The second lot of saffron was genuine Spanish saffron, excellent in color and odor, contaminated with but a small quantity of the yellow styles and a few stamens, but loaded with sodium sulphate. It yielded 17 per cent. of fusible ash. The adulteratiou of saffron with soluble salts, such as the borate, carbonate and sulphate of sodium and ammonium salts, has been previously reported in France by M. Adrian, and in England by E. M. Holmes.

*Read at the Pharmaceutical Meeting November 18.—*Am. Journ. Pharm.*

417,254. TOPICAL REMEDY. Issued Dec. 17, 1889.

Claim.—The compound for the purpose named, consisting of menthol, tinctures of cannabis indica, gelsemium, and veratrum viride, chloroform, sulphuric ether, oil of sassafras, and alcohol, in substantially the proportions specified.

417,267. PROCESS OF MAKING BLEACHING POWDER. Issued Dec. 17, 1889.

Claim.—The process of making bleaching powder, which consists in passing a mixture of chlorine and carbon dioxide through a dilute solution of chloride of lime with the separation of the carbonic acid, then the decomposition of the liquid chloride of lime by the chlorhydric acid produced, and finally the formation of solid chloride of lime by means of the rich chlorine gas obtained, substantially as described.